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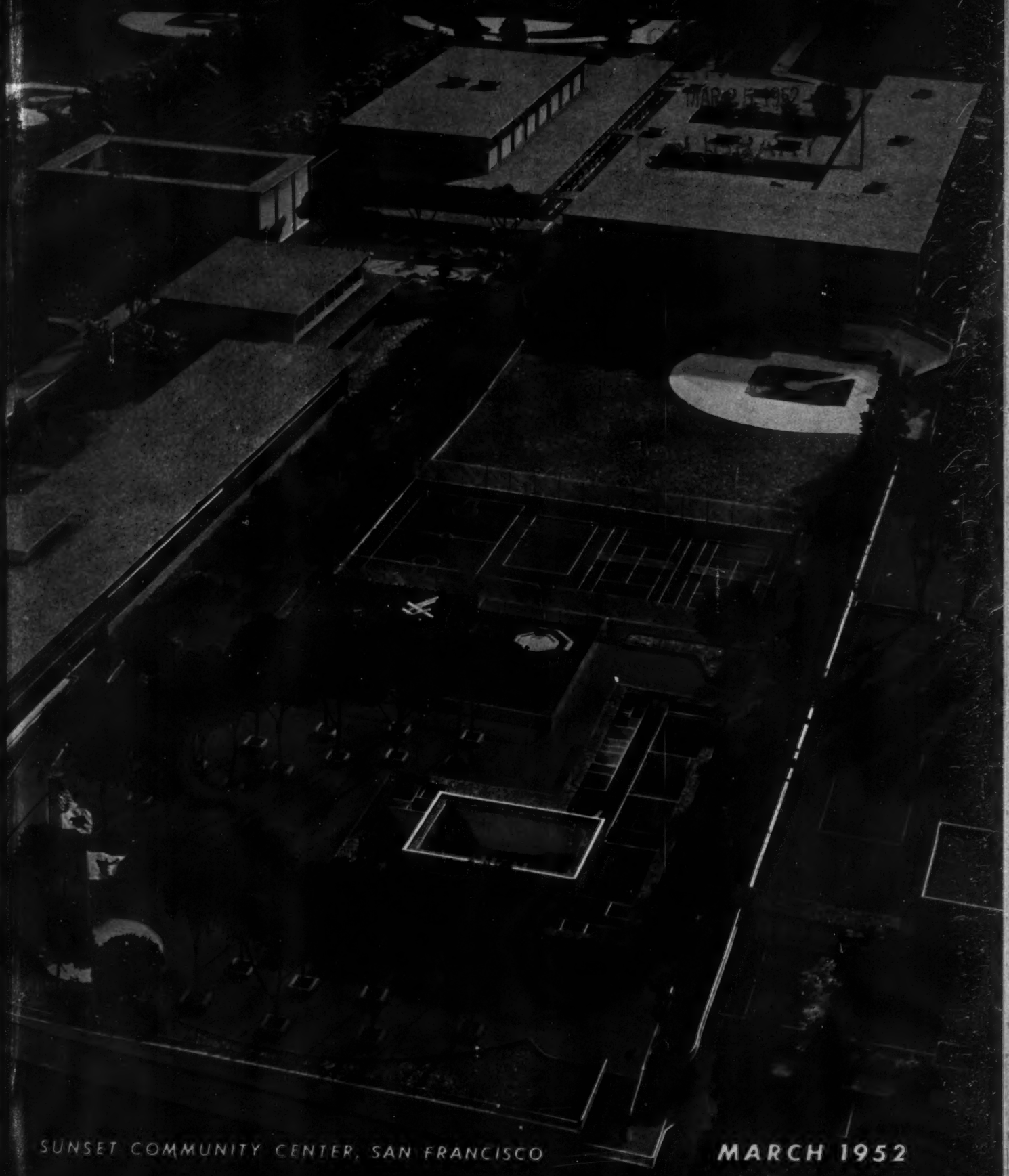

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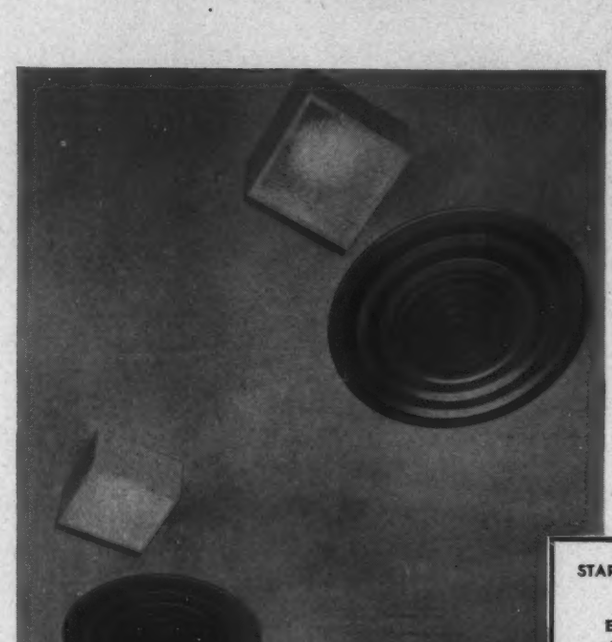

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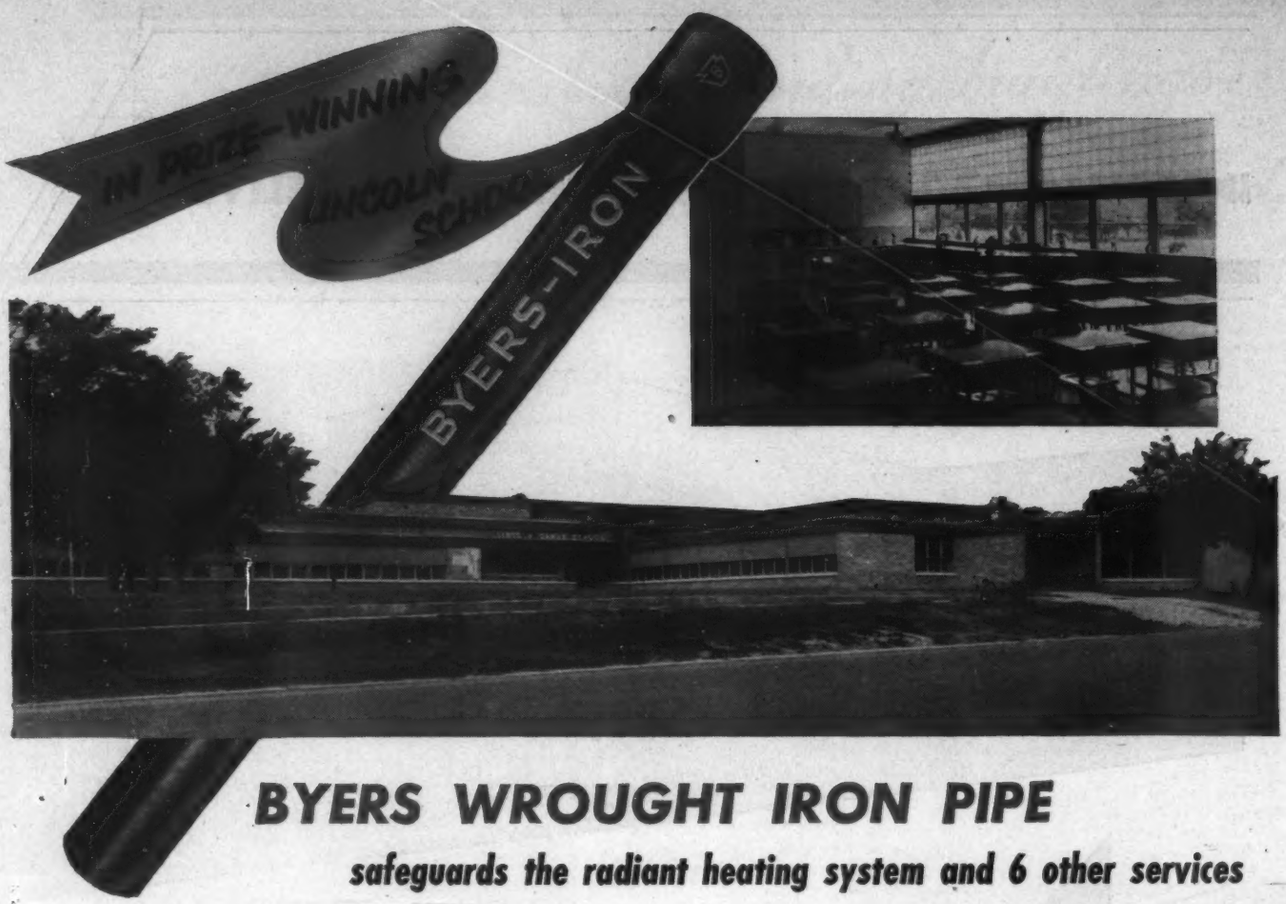

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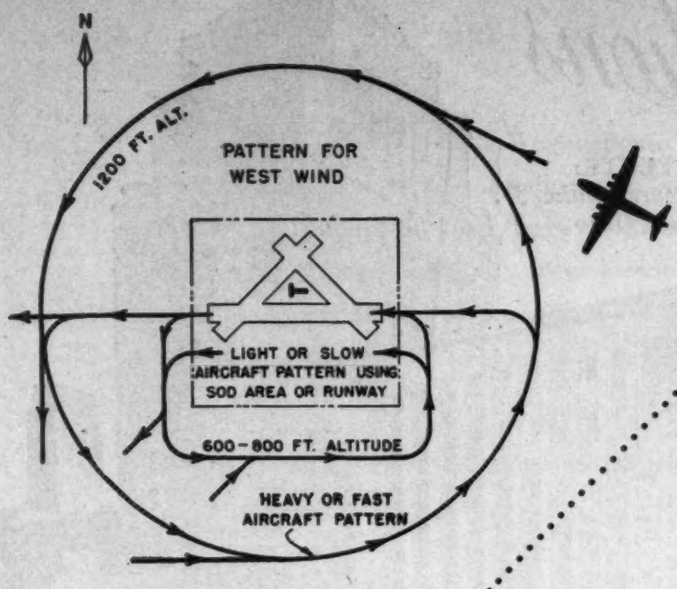

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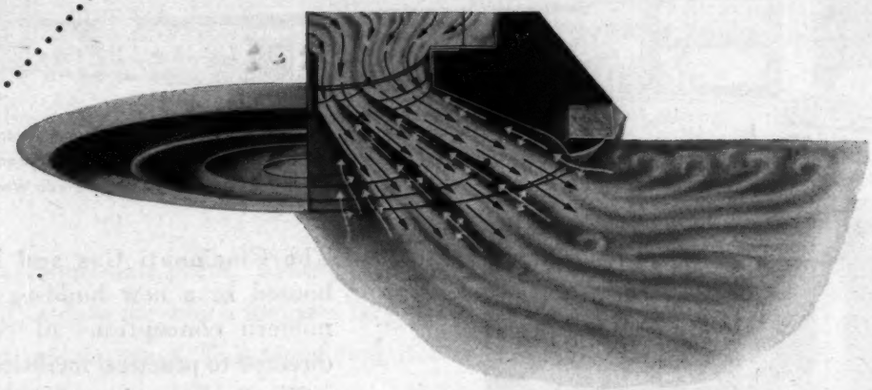

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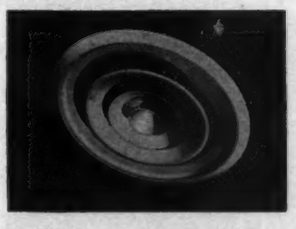

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WA7A . . . 7-gallon capacity. Stainless steel top. Foot-pedal control. Automatic stream-height regulator. Anti-squirt bubbler. 11 other models available with capacities from 1 gallon to 22½ gallons.

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There's a Westinghouse Water Cooler for every conceivable need in any type of industrial plant, military installation, institution, store or building, large or small. They're known as the *Blue Chip Line of the Industry* . . . an endorsement established by the outstanding percentage of the industry sales obtained in 1951.

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THE BIG NEWS: SIGNS OF RELAXING CONTROLS; NPA SHIFT ACKNOWLEDGES EASIER SUPPLY OUTLOOK

Amended Regulation 6 Ups Steel Self-Certification Allowances; New Housing Regulation Revised after Strong Industry Protest; NPA Grants Materials for Completion of Most Deferred Projects, Permits 645 Religious, Community, Municipal Building Starts

THE FIRST CRACKS in the wall of government restrictions around building came last month, as the National Production Authority appeared to recognize mounting evidence from construction industry groups and basic metals producers that the supply situation is easing.

A big factor in what amounted to a reversal of very recent NPA thinking was the Administration decision announced a month earlier to "phase out" the defense program over a longer period than originally planned. The President's announcement that 1955, instead of 1954, would be the target date for equipment of 143 air wings was an important item.

Beginning of the End?

The news NPA had for members of its Construction Industry Advisory Committee at the second of two meetings called last month could be a forecast of the beginning of the end of controls.

These were the major announcements:

1. One provision of the newly-revised CMP Regulation 6 will more than double the amount of steel automatically permitted in the construction of small commercial, school and other non-industrial type buildings.

2. The new housing regulation will not include such restrictions, proposed earlier by NPA, as limitations on number of bathrooms and on maximum floor area. NPA said in effect that the only further restriction in the new order, to be administered by the Housing and Home Finance Agency, will be a cut of 25 lb in the amount of copper that may be self-authorized in one-family houses using copper water distribution systems.

Two specific actions by NPA also reflected a changed outlook: authority was granted to start 645 new "community" projects (such as churches, police stations, jails and homes for the aged) previously deferred; and materials were promised beginning with the second quarter for completion of nearly all commercial and industrial buildings which had been halted by materials curbs.

More Steel the Key

These relaxations, officials said, were made possible by a growing supply of light structural steel. Secretary of Commerce Charles Sawyer said they were evidence that "we are approaching the points where our capacity to produce will permit us to reduce controls," but added it would be "childish" to consider doing away with all controls now.

Indications of the easing supply picture were turning up with increasing frequency in the field.

The American Institute of Steel Construction, national association for fabricators of structural steel, has warned that unless government allows construction to proceed soon, plant capacity for manufacture of structural steel will lie idle by early summer; and a spot survey of steel warehouses late in February indicated many have lately been selling steel cheaper than the price at the mill — normally as much as 40 per cent higher.

(*Continued on page 14*)

At the Chamber's C.I.A.C. meeting: Ralph Walker, Council chairman, and Norman Schlossman of Chicago, A.I.A. second vice president; and (below) William Scheick, BRAB executive director; F. Stuart Fitzpatrick, manager of Chamber's Construction and Civic Development Department; and Public Buildings Service Commissioner W. E. Reynolds

A.I.A. PLANS FIRST NEW YORK CONVENTION SINCE 1925

THE FIRST NEW YORK convention in 27 years of the American Institute of Architects is being planned to take full advantage of all the fabled resources, architectural and otherwise, of the world's biggest and busiest city.

Headquarters for the convention, June 23–27, will be one of the world's most famous hotels, the Waldorf-Astoria. The Grand Ballroom there has a capacity of over 2000.

There will be boat tours, bus tours and exhibits galore; and the convention program has been "streamlined" to let architects cover the convention and still have time to enjoy New York.

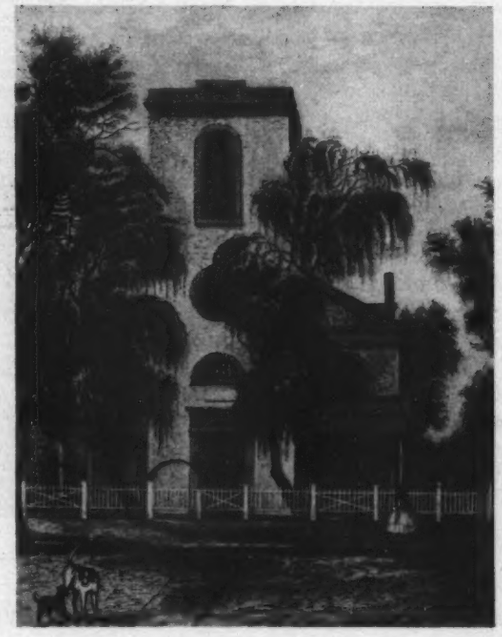
One of the special efforts of Convention Chairman Arthur Holden, F.A.I.A., and his committee is to make the convention the occasion of increasing public consciousness of architects and architecture. To this end they have enlisted the enthusiastic cooperation of museums, libraries and educational institutions throughout the five boroughs in planning exhibits and other special events during the period of the convention.

"The importance of the design of buildings in forming environments for human activity" is the theme of the program. Technical sessions will emphasize the structural resources of the architect.

Photos on this page except as otherwise credited: courtesy New York Historical Society

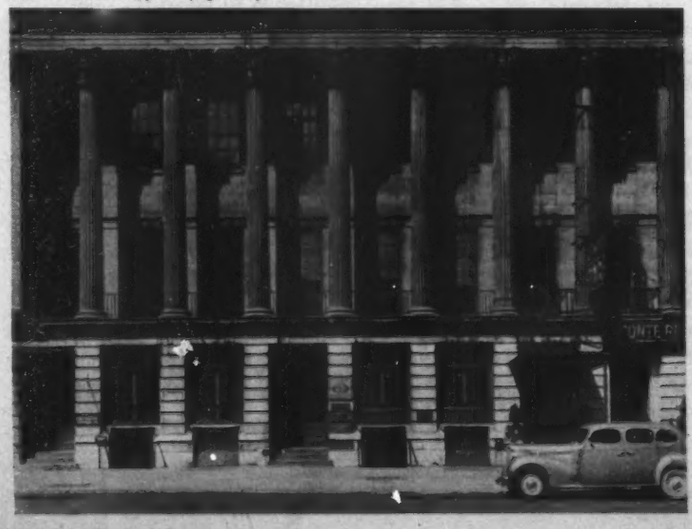
Above: New York's city hall, 1802–12, was designed by Mangin and McComb, who won competition which Latrobe and others entered

St. Paul's Chapel, above, built in 1764–66 as a chapel of original Trinity Church, was added to in 1794 by L'Enfant. St. Luke's Chapel, right, 1822, has been altered often but still retains original character. Colonnade Row, below, designed by A. J. Davis and built in 1832, originally included eight houses, many of which have been demolished



The former Sub-Treasury Building, now the Federal Hall Museum, was completed in 1842, remodeled 1862. It stands on the site where Washington was inaugurated President

Photos below and opposite page: Wayne Andrews



Richard Upjohn's famed Trinity Church, 1839–46, still imposing amid skyscrapers which now surround it, greatly influenced American church design

ARCHITECTURAL HISTORIANS' MEETING FEATURES TOUR OF HISTORIC NEW YORK BUILDINGS

HIGHLIGHTING the recent meeting in New York of the Society of Architectural Historians was a tour of historic New York buildings which was arranged and guided by Talbot Hamlin. The Historians' tour was substantially the same as the tour which Professor Hamlin may conduct for the annual meeting of the American Institute of Architects in New York, June 23–27, and architects planning to attend the sessions are afforded on these pages a preview of some of the outstanding buildings they may expect to see this summer.

The tour for the historians culminated a tightly-packed and highly successful three-day meeting which also featured special exhibitions at the Avery Library, the Morgan Library, the Metropolitan Museum of Art, the New York Historical Society and the Architectural League.

Most of the papers presented at the meeting centered on various aspects of New York architecture. Chairmen for the sessions were Prof. James G. Van Derpool, Ralph Walker, Dr. Emerson H. Swift, Charles E. Peterson (retiring president of the Society) and Lydia Bond Powel.

Dr. Anthony N. B. Garvan of the University of Pennsylvania was presented with the Society's annual award for the book voted the outstanding contribution to architectural history by an American for the year. Dr. Garvan's book was "Architecture and Town Planning in Colonial Connecticut," published by Yale University Press. Honorable mention was accorded Samuel Wilson, Jr. for his editing of "Impressions Respecting New Orleans, by Benjamin Henry Boneval Latrobe, Diary and Sketches 1818–1820," published by Columbia University Press.

Officers for 1952 elected by the Society are: Henry-Russell Hitchcock, president; Mrs. John M. Gilchrist, vice president; John D. Forbes, secretary; and Miss Barbara Wriston, treasurer. Directors are Kenneth J. Conant, James G. Van Derpool, Frederick Gutheim, Richard H. Howland, Paul Norton, Charles E. Peterson and Clarence Ward.

The Society, which is the only organization of its kind in the world, is dedicated to the study of building "as a social art" and to the appreciation and preservation of noteworthy historic buildings. Although it was founded by and is composed principally of specialists in the field, membership is open to all persons interested in the aims and purposes of the Society.

The versatility of nineteenth century American building is illustrated by these two familiar landmarks, both of which were built in 1885. Villard Mansion, left, is by McKim, Mead and White. De Vinne Press Building is by Babb, Cook and Willard

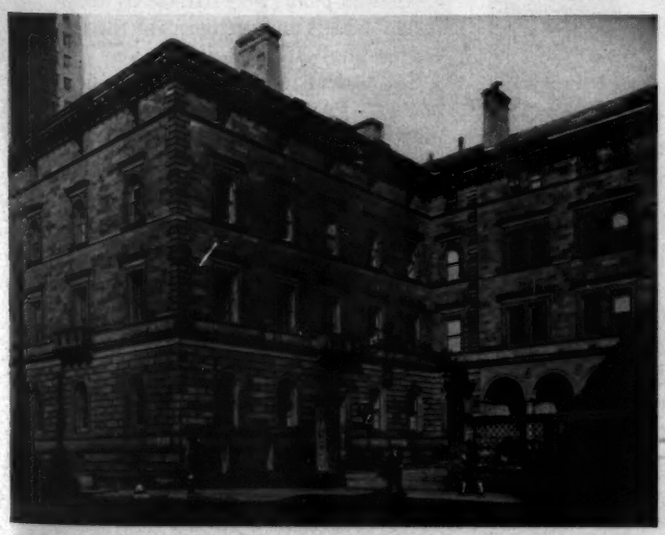


Photo: American Photo Service

Some of the A.H.A. "faculty": Standing: Rueben Graham, North Carolina Baptist Hospitals, Inc., Winston-Salem, N. C.; Lester Richwagen, Mary Fletcher Hospital, Burlington, Vt.; Robert W. Cutler, A.I.A., Skidmore, Owings & Merrill, New York; Marshall Shaffer, chief architect, Division of Hospital Facilities, USPHS; Roy Hudenburg, American Hospital Association, Chicago (Institute coordinator). Seated: George Ivanick, USPHS; Slocum Kingsbury, A.I.A., Faulkner, Kingsbury & Stenhouse, Washington; Henry W. Shepley, A.I.A., Coolidge, Shepley, Bulfinch & Abbott, Boston; Addison Erdmann, A.I.A., New York; Jacque Norman, hospital consultant, Greenville, N. C.; Howard Post, food service consultant, N.Y.C.

WRITING ARCHITECTURAL PROGRAMS FOR HOSPITALS CONSIDERED AT FIVE-DAY INSTITUTE IN NEW YORK

NEARLY 100 ARCHITECTS, hospital men and educators spent five hardworking days at the American Hospital Association's Institute on Development of Hospital Plans, held at the Park Sheraton Hotel in New York February 11–15.

Besides the floor discussions following speeches on various aspects of hospital planning, the Institute featured special group participation sessions. They gave those attending an opportunity to take part in discussions of specific problems.

The sessions were programmed to emphasize development of architectural programs to fit various sets of requirements; and the aim was to provide guidance on writing the program.

Architect members of the "faculty," besides those pictured above, included Aaron W. Kiff, A.I.A., and James J. Souder, A.I.A., both of York and Sawyer, New York.

Photo: Fred Stone

At the Boston Institute of Art's recent symposium "The Future of Design," held in connection with the Institute's Gropius exhibit, four of the panel speakers: Serge Chermayeff, former head of the Chicago School of Design; Dean Pietro Belluschi of M.I.T.; Walter Gropius of Harvard; Gyorgy Kepes of M.I.T.

BIG NEWS (*Cont. from p. 11*)

Prime aluminum product manufacturers, who kept pointing out that within the next year aluminum production capacity will be nine times the pre-World War II level, were reported to disagree violently with the government claim of a continuing aluminum shortage and to feel present supply warrants an immediate increase in allotments.

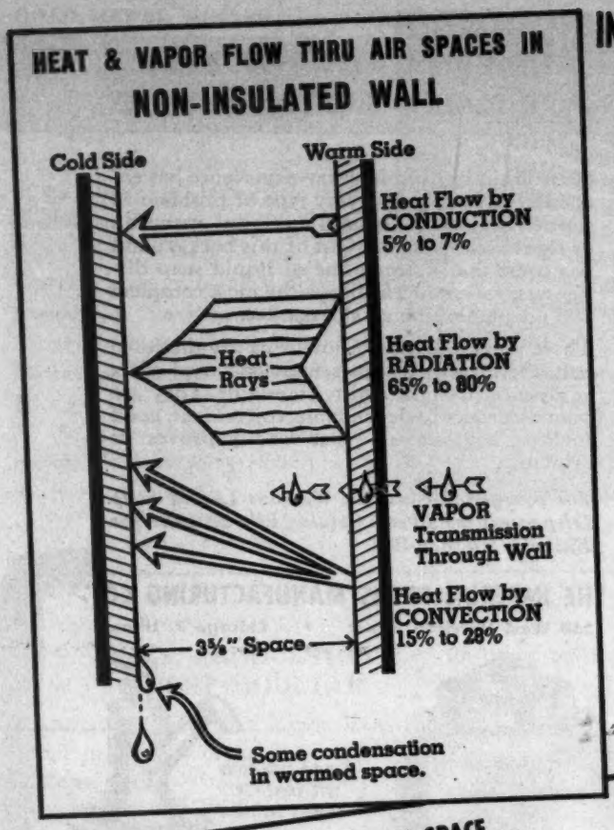
A decline in metals prices abroad also seemed to point to better supplies; and there were reports of the return of a "buyer's market" already in some lines of builders' hardware.

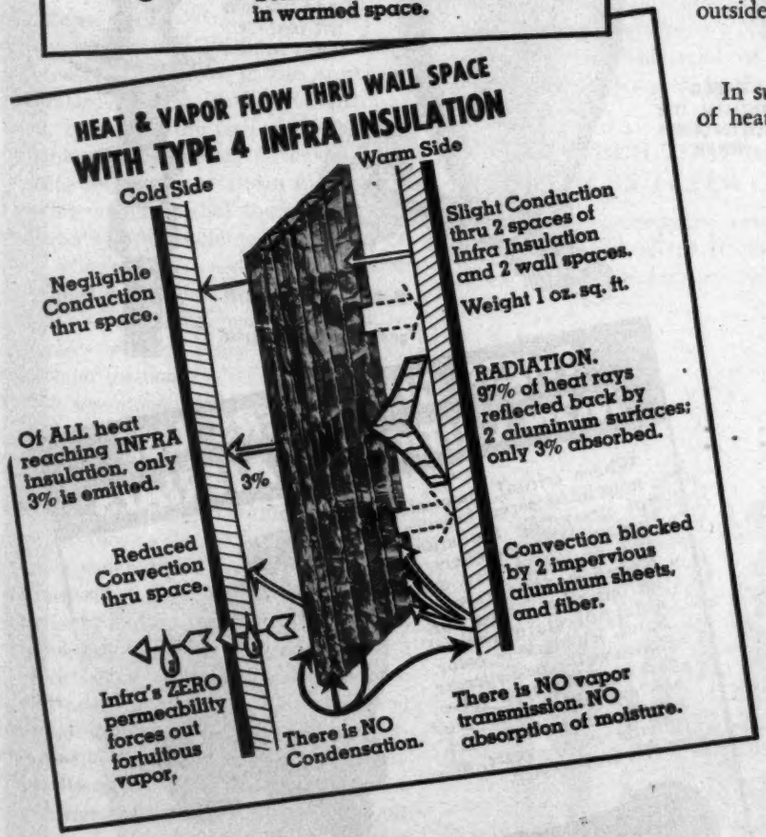
Industry Registers Protest

All these points were stressed by architects, builders and producers at the two big meetings early last month.

The first of the month's two sessions of the NPA Industry Advisory Committee presented some of the evidence, together with sharp protests and recommendations, apparently with effect.

The day after that meeting came the big all-industry round-table sponsored by the Construction Industry Advisory Council of the Construction and Civic Development Department of the Chamber of Commerce. Here, too, the industry was presenting the case for a "realistic" government construction policy; and heard discussion of the long-range prospects for construction — "better than those of most any other industry," said Norman P. Mason.





INVISIBLE OPEN WINDOWS AND TRAP DOORS DRAIN HEAT IN WINTER, LET SUMMER HEAT IN

Doors and windows may be tightly shut, every chink and cranny caulked and weatherstripped, yet heat may flow out of a structure or in, right through solid walls and internal wall spaces, as if through open windows.

Obedient to nature's law, heat flows through *space* by radiation, in the form of invisible rays, from warm to cold; from warm humans, animals, furniture, walls, ceilings, floors; to colder ceilings, walls, floors, furniture, animals, and human beings. Heat also flows by conduction through *solids* when these warmer objects touch colder objects. Even the warmth in the air convected to and in contact with the wall flows into the wall by direct conduction. ("Wall" is used as a general term. The principle applies to walls, floors, ceilings and roofs.)

But preponderantly, it is radiation which wall, ceiling and floor surfaces inside a room absorb. These rays are transformed to heat which then passes through the wall by direct conduction, as does heat acquired by the wall by conduction and convection. The entire process is repeated, radiant flow preponderant, inside the wall *space* in the direction of the inner surface of the colder outer wall. The total heat which is caused by absorption of radiation mingling with the convected heat which has been absorbed by conduction, flows through the outer wall by conduction. It is finally dissipated in the colder, ambient air outside mostly by radiation but also by convection.

Heat Flow Reversed in Summer

In summer, the process is the same but the direction of heat flow is reversed; from the warm outside walls toward the colder interior walls, to be finally transferred mostly by radiation, but somewhat by convection, to the occupants of the building.

Radiation accounts for 55% to 80% of heat flow through building spaces; convection 15% to 40%; conduction 5%. Multiple accordion aluminum sheets reflect 97% of radiation, and each aluminum and fiber sheet is an effective convection block. Being mostly air, 1 oz. per sq. ft., there is almost no conduction.

Multiple accordion aluminum is non-condensation-forming. It has zero permeability to all gases—water vapor, hot and cold air, etc. No dewpoint can be reached on its surfaces or within it. It can neither sustain nor retain fortuitous moisture, for instance, rain leaking in, but expels it as a vapor because its permeability in ratio to exterior walls is infinity and the minimum requirement is 1 to 5.

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C-866 PUSH-DOWN TYPE VALVE FOR GRAVITY SYSTEMS

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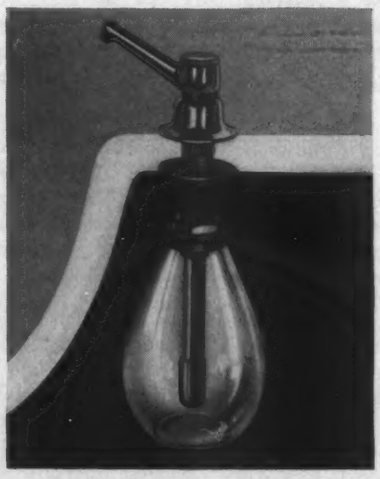

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M-855 WALL TYPE SOAP DISPENSER

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GOLD MEDAL WINNER

The El Panama Hotel (photo at right), Panama City, won the Gold Medal in Architecture for Edward L. Stone, Architect, in the 55th annual edition of the series of exhibitions held by the Architectural League of New York. The hotel was done in association with Carl J. Holzinger of New York and Mendez & Sanders, architects, of Panama. Architect Robert F. Smith of Miami won honorable mention for his Biscayne Cabana Colony at Miami. All the works accepted for the competitive Gold Medal exhibition were on view at the League

Photo: Ezra Stoller Pictor

U. S. BRICK PRODUCTION IS 60 PER CENT MODULAR

APPROXIMATELY 60 PER CENT of national production of brick is now in modular sizes, according to a report given at the first 1952 meeting of the Executive Committee of the American Standards Association Project A62.

A resume of the session by William Demarest Jr., secretary for modular coordination of the American Institute of Architects, notes that the meeting recognized that the building program under the Wherry Act — which favors modular planning — should offer an opportunity to encourage many architects to convert without delay to the use of modular methods.

It was announced that a new A62 study committee is working on a modular standard to cover natural stones for exterior application.

Mr. Demarest attaches the greatest importance to the work of the window-study committees. In spite of several years' effort, he points out, the building industry still has no modular American Standard governing window sizes. He reports that the architects' committee will soon be called by the wood and metal window committee for a determined joint effort to resolve the remaining discrepancies.

A report from the Housing and Home Finance Agency reviewed its current projects in the modular coordination field:

1. Fundamental research at the Illinois Institute of Technology analyzing structural systems and design problems.

2. Preparation of a set of slides for distribution to schools of architecture for use in teaching modular drafting.

3. Preparation of material to assist in coaching builders in efficient use of modular drawings.

4. Demonstration modular house projects being conducted by New York University, the University of Illinois and Southwest Research Institute.

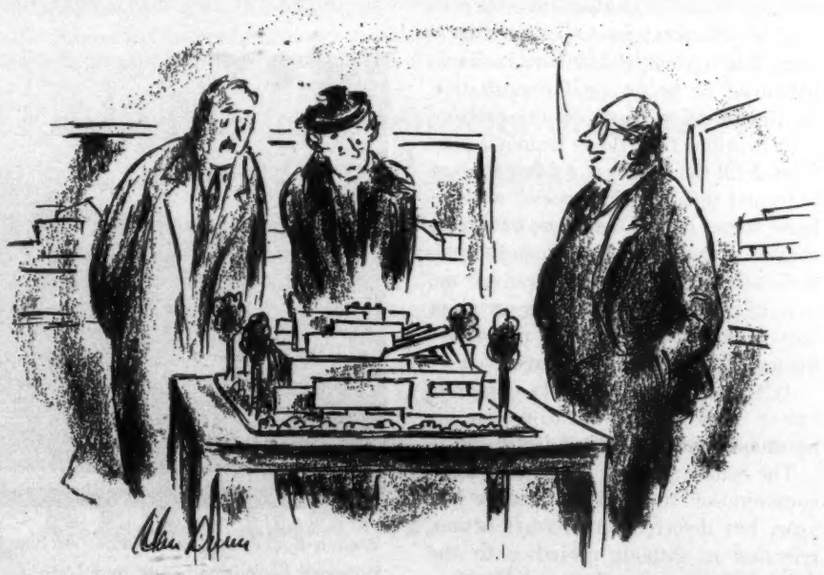
JANUARY BUILDING BELOW '51 MONTH BY 14 PER CENT

CONSTRUCTION CONTRACTS awarded in the 37 states east of the Rockies were off 14 per cent in January 1952 compared with the first month of last year, F. W. Dodge Corporation reports.

Total for the month this year was $902,091,000, against $1,043,248,000 in January 1951.

Residential contracts of $337,721,000 were down 20 per cent from the previous January; nonresidential awards for the first month of this year totaled $357,676,000, or 22 per cent less than the $461,016,000 total for January a year ago.

Public and private works and utilities totaled $206,694,000 — a gain of 28 per cent over the figure for January 1951.



—Drawn for the RECORD by Alan Dunn

"Try thinking of it as 'space cadence' and maybe you'll feel better"

TAX BILLS WOULD HELP ARCHITECTS, ENGINEERS

THERE ARE at least three bills before Congress proposing to amend the Internal Revenue Act so that self-employed persons, including architects and engineers, might set aside a certain amount of income for old-age assistance. This money would be tax-free in the year earned.

Prospects for these amendments are not considered bright. Sponsors said they had hopes the House Ways and Means Committee would consider the proposals as soon as the unit had a meeting on the subject of tax exemptions. More than a month after Congress convened, no meetings of the full Committee had been scheduled. The Senate Finance Committee, which handles tax measures, could not act until House-enacted bills were received. There was no indication of any early consideration of tax matters in either House.

Proponents of the plan to exempt a certain portion of the income of self-employed persons from taxation for federal purposes in the year in which it was earned included Sen. Irving M. Ives (R-N.Y.) and Rep. Daniel A. Reed (R-N.Y.) and Eugene J. Keogh (D-N.Y.). The Keogh-Reed bills were identical, both much like the Ives measure.

The Ives version would:

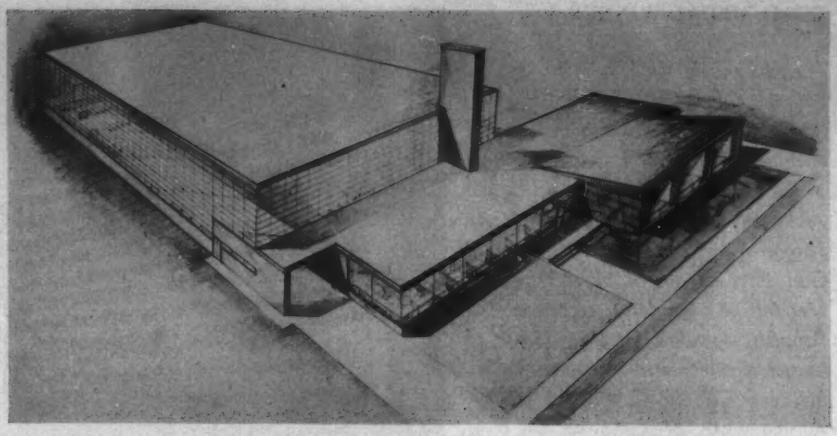
a) Permit the individual taxpayer to exclude up to 10 per cent of his annual income, or $7500, whichever is lesser, from the amount of his income which is subject to federal income tax.

b) Require the taxpayer to pay the amount so excluded into a special pension or retirement fund sponsored by a bona fide agricultural, labor, business, industrial or professional organization for the exclusive benefit of its members.

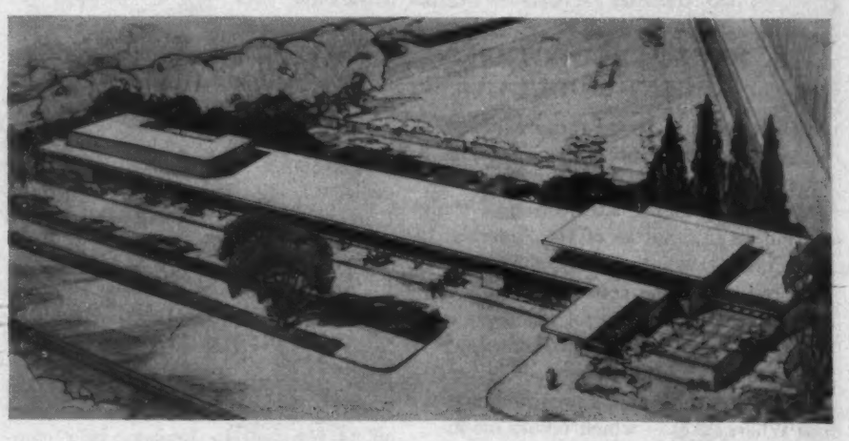
c) Provides that funds cannot be refunded till the taxpayer reaches the age of 60 and then only in specified ways — lump sum, to be taxed as long-term capital gain; 15 annual installments, each subject to annual federal income tax; by purchase of a single premium non-commutable life annuity with benefits subject to income tax as received.

d) Authorizes taxpayer to designate one or more beneficiaries to receive his accumulated funds on his death.

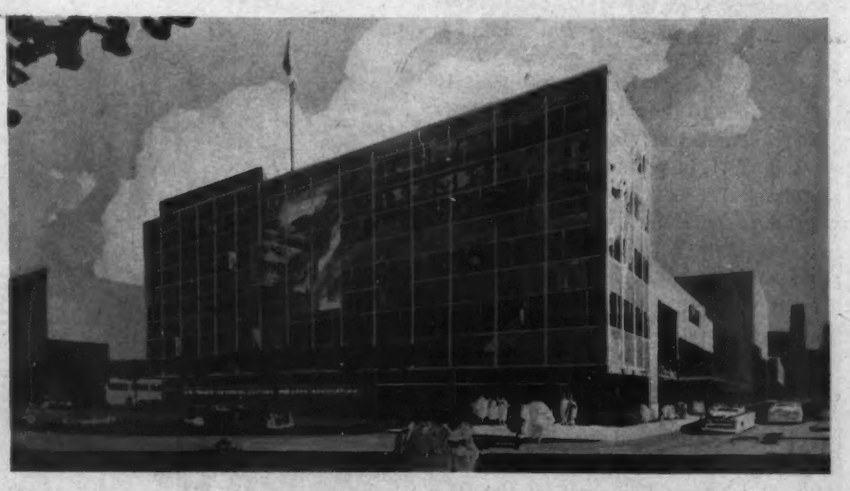
The Senate Finance group gave some consideration to the Ives measure last year, but deferred any formal action, referring it without prejudice to the Joint Committee on Internal Revenue Taxation for further study. Sen. Walter F. George of Georgia is chairman.



Factory-office building for Charles Grotnes Machine Works, Inc., Chicago, has been designed by Barancik-Conte Associates, Architects, as one-story structure of glass and face brick. Machine shop has steel sash and glass walls 21 ft high above 3-ft brick wall. Executive office wing is cantilevered out over a sunken garden



Architects Pereira & Luckman are building their new headquarters on a two-acre site at the western tip of Sunset Boulevard in Los Angeles. The building, of concrete, frame and glass, will have a total area of 20,000 sq ft. Facilities include space laboratory with floor scored off in modules to help clients visualize room sizes



Welton Becket and Associates, Architects, have designed an "all glass" building for Standard Federal Savings and Loan Association in Los Angeles. Continuous bands of wide sealed windows will alternate with opaque gray-blue glass spandrels; framing will be aluminum. Windows will have vertical louvered blinds on inside

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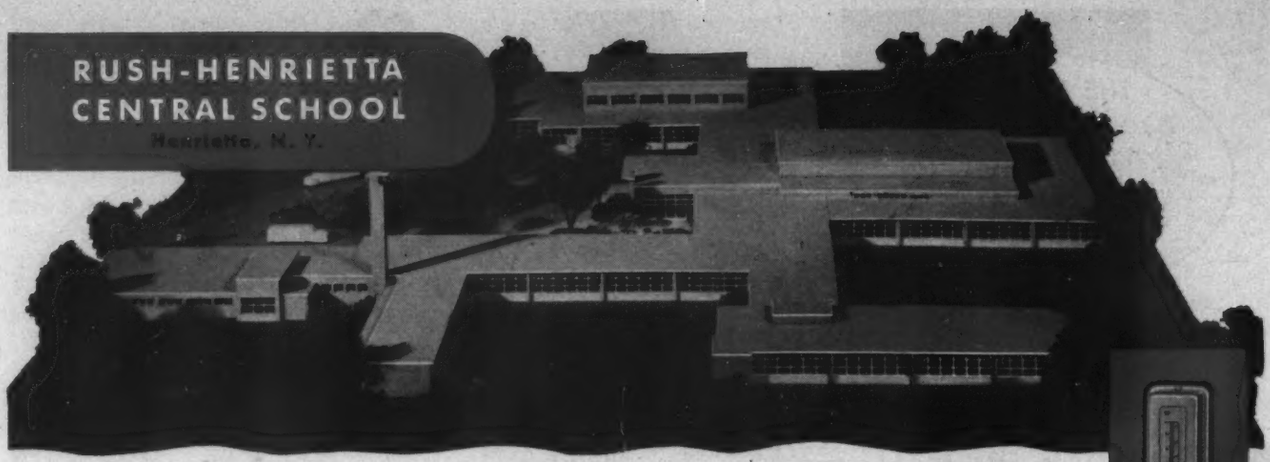


Architects: ADE and TODD Rochester, N. Y. • Consulting Engineers: ROBSON & WOESE, Syracuse, N. Y.
Heating Contractor: W. A. McCORMICK, Rochester, N. Y.

POWERS
RADIANT HEATING CONTROL

—used in many prominent modern buildings

Here is one of the nation's prominent modern schools with a radiant heating system supplemented by mechanical ventilation —completely controlled by Powers.

For flexibility of adjustment and better control the temperature regulating system is divided into six zones.

Each Zone—is heated by circulated hot water regulated by a Powers MASTROL system which controls temperature of water in relation to outdoor weather.

Ventilation for each of the six zones is supplied by large unit ventilators controlled by a Powers duct thermostat operating Flowrite valves and dampers.

Auditorium is heated by a central fan ventilating system. **Gymnasium** is heated by two large unit ventilators. Both types of ventilation circulate room air except when rooms are occupied at which time outside air is proportioned to the load. Temperature in both of these spaces, as well as in the Locker Room, is regulated by various Powers controls.

Steam Boiler Control for Varying Loads Three oil-fired boilers here are regulated by a Powers No. 252 Pneumatic Pressure Regulator controlling three PE switches which cut in the right number of boilers required for the heating load.

Powers MASTROL System of Control is ideally suited for radiant heating. It has been widely used to control many types of forced hot water heating. Performance records show it unsurpassed for reliability. Maintenance cost is practically nil.

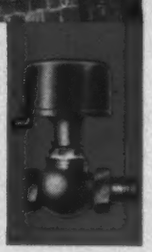
When problems of control for any type of heating or air conditioning arise, call Powers. Our more than sixty years of experience in supplying control for important buildings may be helpful to you.

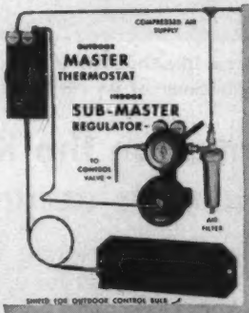
(a81)

Ceiling Coils before plastering

81 Powers Individual Room Thermostats here, control...

87 Powers NO-PAK Valves (packless, non-leaking type) which regulate heat in ceiling coils. Each room is provided with the temperature desired.



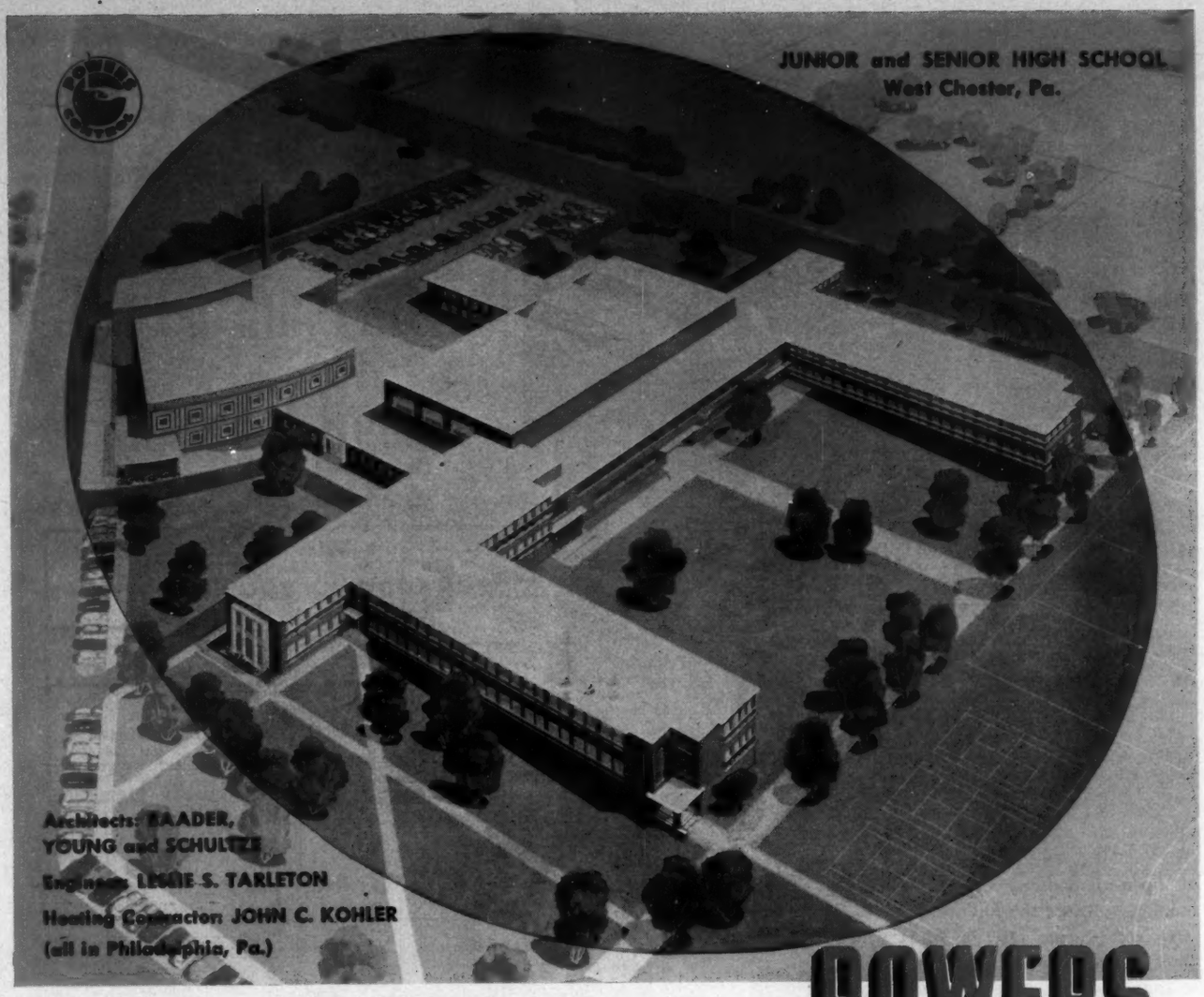


Powers MASTROL System of Control in each of 6 zones regulates the temperature of water circulated from steam heated hot water converters to various rooms. Temperature of water is maintained in direct relation to weather out-doors.

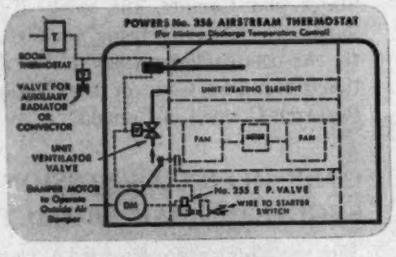
Powers FLOWRITE Control Valves Regulate steam to Hot Water Converters • Heating coils in Classroom Ventilators • Central Fan System in Auditorium • Large Unit Ventilators in Gymnasium.

Only a few of our many types of control for Radiant Heating are shown here.

OFFICES IN OVER 50 CITIES — THE POWERS REGULATOR COMPANY — SKOKIE ILLINOIS


JUNIOR and SENIOR HIGH SCHOOL
West Chester, Pa.
Architects: BAADER, YOUNG and SCHULTZE
Engineer: LESLIE S. TARLETON
Heating Contractor: JOHN C. KOHLER
(all in Philadelphia, Pa.)

Greater SIMPLICITY of POWERS



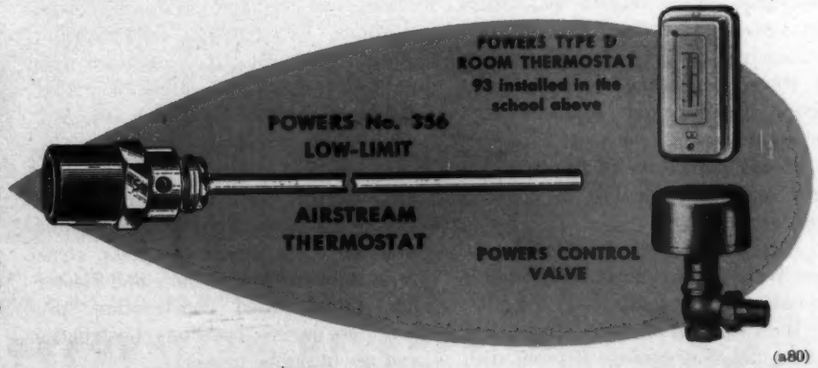
UNIT VENTILATOR CONTROL—used in this attractive modern school—is only one of the features that appeals to operating personnel. Equally important is the continuous accuracy of a Powers Low-Limit Thermostat.

As unit ventilators operate on minimum discharge temperature much of the time, a control system is only as good as its low-limit thermostat. Because of its superior design a Powers instrument needs no auxiliary devices to supplement its dependable operation.

To insure greatest comfort in classrooms regulate unit ventilators with Powers control. Its low cost maintenance and years of accurate service make it a very profitable investment.

Important Features

- Powers 2-line non-waste Airstream Thermostats have a graduated dial for ease of adjustment—also Adjustable Sensitivity for precise control.
- With its ingenious non-waste double air valve mechanism there is no continuous waste of compressed air. It is not a "leakstat".
- Once set for the proper temperature a Powers No. 356 Thermostat requires no readjustment—there are no fine restrictions to be serviced.

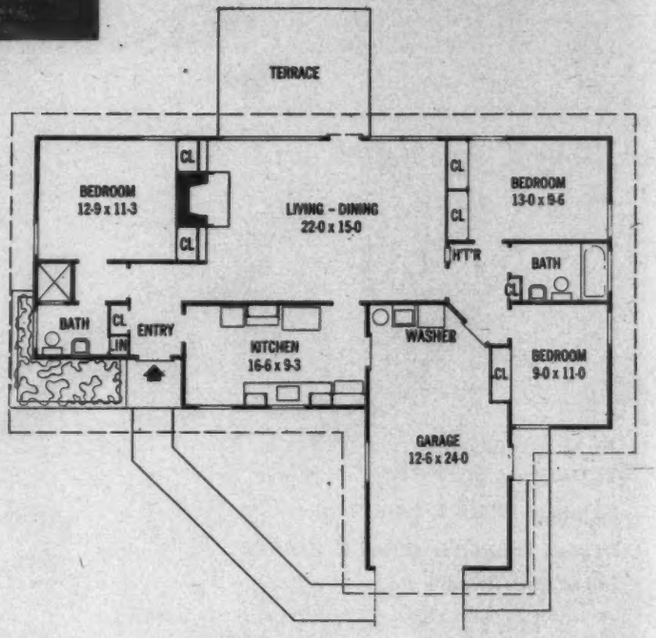

POWERS TYPE D ROOM THERMOSTAT
93 installed in the school above
POWERS No. 356 LOW-LIMIT
AIRSTREAM THERMOSTAT
POWERS CONTROL VALVE

(a80)

Established in 1891 • THE POWERS REGULATOR COMPANY • SKOKIE, ILL. • Offices in Over 50 Cities

Photos: Courtesy Parents' Magazine

A $9500 house designed by Architect John W. Davis of Sacramento, Cal., for his own family brought the National Merit Award in Parents' Magazine's second annual builders' competition "Best Homes for Family Living" to Builder Jere Strizek of Sacramento. Awards were presented at the N.A.H.B. convention in Chicago. Mr. Strizek has erected more than 100 similar houses in his Town and Country development just outside Sacramento



HOUSING CHANGES SEEN BY BUILDERS; BROCKBANK ELECTED TO HEAD N.A.H.B.

Architects and Builders Cited in Two Sets of Awards

TEN CHANGES in builder-built houses are predicted by Alan E. Brockbank, who was recently elected president of the National Association of Home Builders at the group's Chicago convention.

While experienced residential architects found none of the changes new, they were pleased to note intimations of open-mindedness on the part of builders towards the following:

1. Non-bearing interior walls which allow use of movable interior partitions. In some cases, interior walls to be floor-to-ceiling storage wall units or floor-to-ceiling bookcases.

2. Increased use of dual winter heating and summer air conditioning units. A limited supply of such equipment is now being produced, Brockbank said, at a price which allows its use in homes costing as low as $12,000 in some areas.

3. Floor plans designed for easy expansion. In many cases, expansion to a third bedroom through a closet: after expansion, the closet becomes a hall. Pre-planning to eliminate ill-planned third bedrooms cutting off views and ventilation.

4. Rising popularity of recessed and indirect lighting and supplementary floor lamp lighting.

5. Rising popularity of furniture designed and built for use in contemporary-styled home.

6. Increased use of simplified roofs. More living room ceilings which follow the contour of the roof.

7. Increased use of many electric appliances including garbage disposal, dish

(*Continued on page 386*)

BUILDING CODES GROUP RELEASES FIRST RESULTS

THE FIRST MAJOR RESULTS of three years of work toward greater uniformity of building codes in the United States have been released by the Joint Committee on the Unification of Building Codes.

Four sections of technical material on definitions, use and occupancy classifications, construction classifications and design loads can be obtained upon request to Building Commissioner A. H. Baum, 426 City Hall, St. Louis, Mo., who is chairman of the Joint Committee.

At its next meeting, May 16–17 in Detroit, the Committee will consider adding additional building code provisions covering means of egress, structural steel and iron, lathing and plastering, prefabricated construction, precautions during building construction and use of public property.

With a view to extending uniformity of building codes throughout the United States and Canada, the work of the joint Committee is being studied by the Associate Committee on the National Building Code of the National Research Council of Canada.

CODE OFFICIALS SESSION SUGGESTS BRAB PROJECT

THE NEED for an approved list of testing laboratories became the major topic of discussion at the Washington meeting of building code officials, inspectors and manufacturers' representatives sponsored last month by Southwest Research Institute.

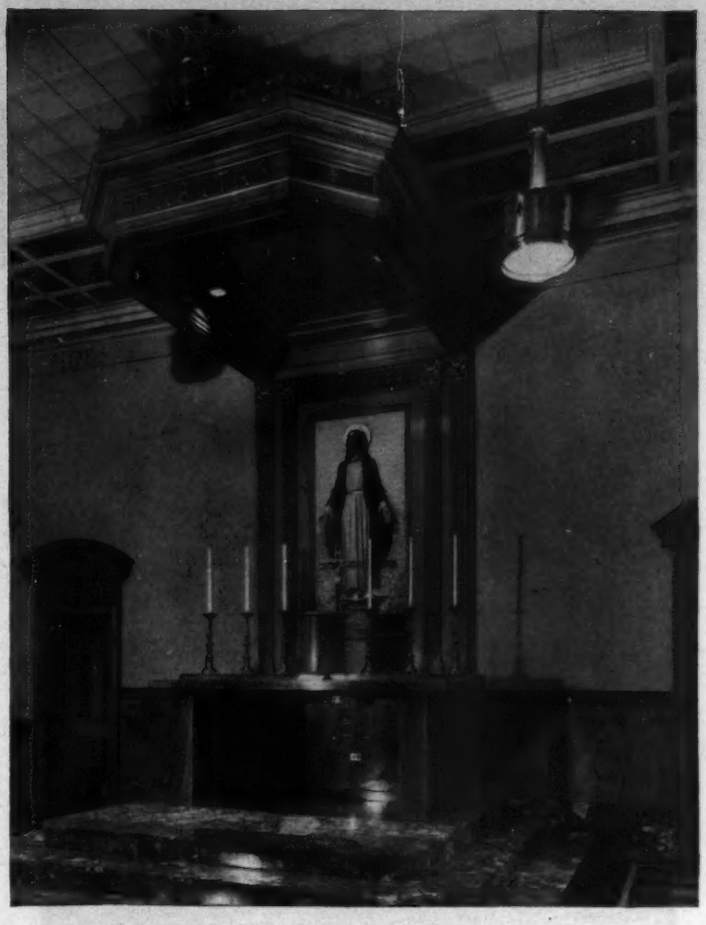
Certification of testing laboratories was suggested as a useful new project for the Building Research Advisory Board, with an initial conference of code group representatives called by BRAB to discuss ways of raising funds to pay for it. The BRAB board will be asked to consider the project.

The Cardinal Stritch Retreat House

EXEMPLIFIES THE BEAUTY IN WOOD BUILT, FINISHED AND INSTALLED BY WOODWORK CORPORATION

A remarkable blending of modern simplicity and Italian Renaissance elegance gives the interiors of the Cardinal Stritch Retreat House a rare beauty, both new and eminently ecclesiastical. Special cabinetwork and architectural woodwork for this distinguished interior were built and finished by Woodwork Corporation craftsmen, precisely to the architect's specifications. Installation of the Altars, Tester, Prie-Dieux, Vestment Cases, and other cabinet work was handled by Woodwork Corporation's installation specialists.

This complete Woodwork construction-finish-installation service eliminates delays and errors and assures satisfaction with economy. However large or small your custom woodwork plans, this organization of craftsmen is equipped to serve you well.



Reredos and Tester, Main Chapel Altar, Cardinal Stritch Retreat House, Mundelein, Illinois—Architects, McCarthy & Smith, Chicago

Altar and Vestment Case, Cardinal Stritch's Oratory

Nun's Chapel, Cardinal Stritch Retreat House

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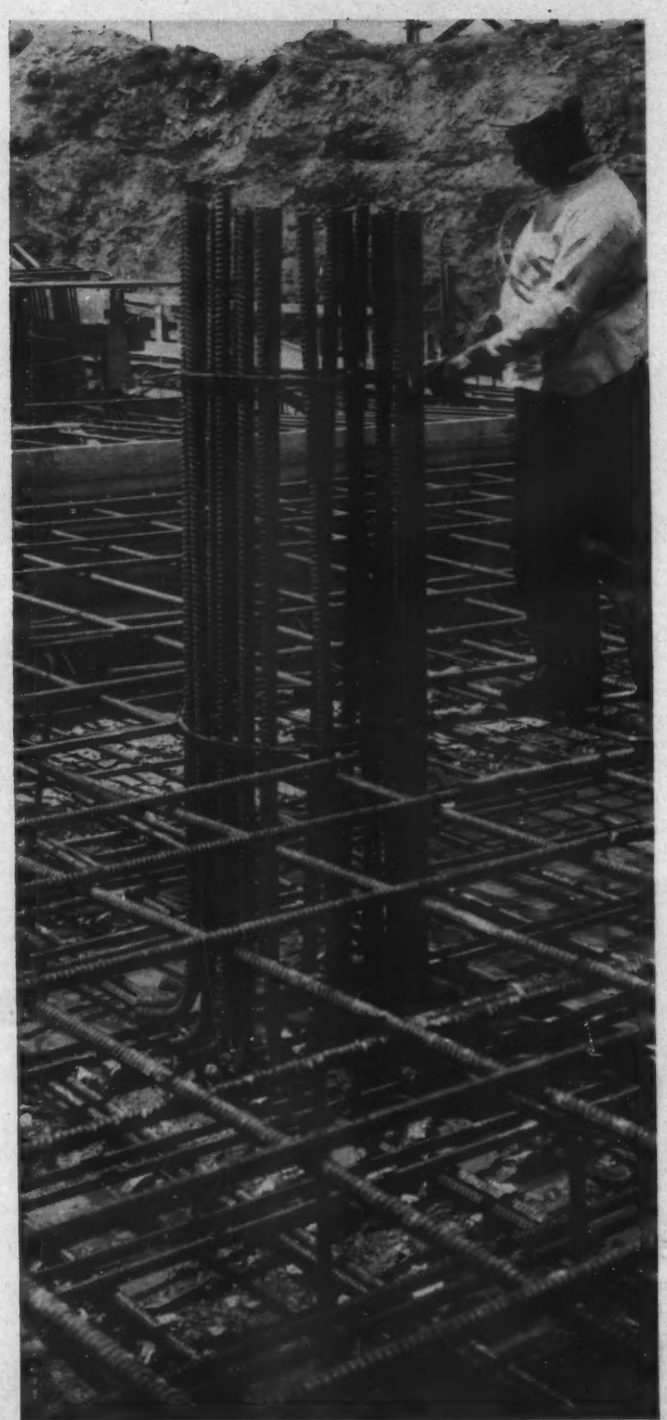


INLAND HI-BOND

The deep, reversed, double-helical ribs of Hi-Bond reinforcing bars provide a mechanical grip which gives maximum bond in concrete, thus permitting greater use of steel's potential strength in concrete construction. It also improves transfer of stresses, crack control and resistance to slip . . . advantages that will make possible higher design stresses and thereby lower construction costs. Hi-Bond meets standards set up by ASTM A 305.

INLAND STRUCTURAL SHAPES AND PLATES

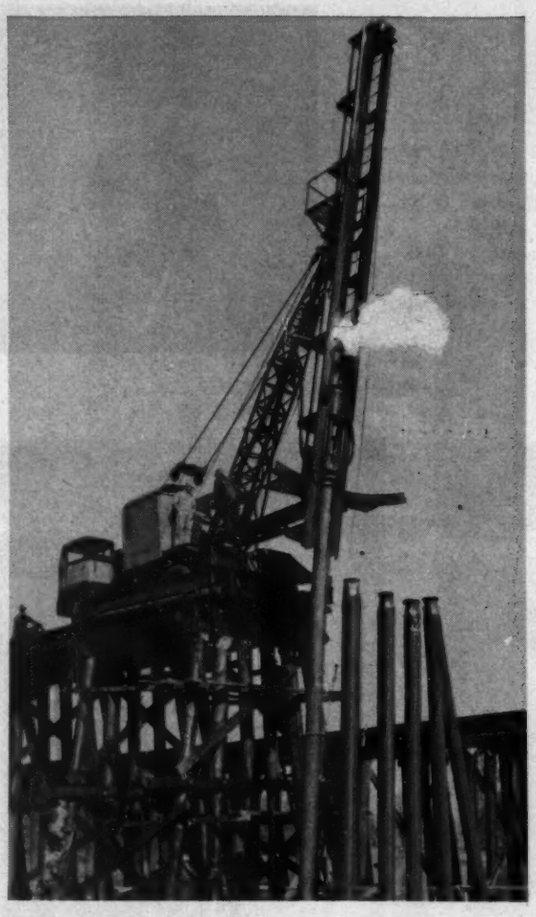
Inland's service on structurals and plates meets the most exacting requirements of today's construction and heavy equipment industries . . . in dependability of product and engineering cooperation with users. I-Beams, Angles, Channels and other standard structural sections, in a wide range of sizes, are rolled to all the standard specifications . . . also in Inland Copper-Alloy for increased resistance to atmosphere corrosion.

INLAND

IDEAS

INLAND 4-WAY SAFETY PLATE

On scores of products, on new bridges, in new buildings—and for replacement, maintenance and repair—this scientifically designed steel floor plate, with its exclusive raised lug pattern, provides positive traction in every direction. Tough, durable, strong, it stands up under heavy loads and hard wear. It can be readily sheared, welded, punched, flame cut, and shaped. It has no pores, no cracks, absorbs no liquids and is easy to sweep. Comes in a wide variety of patterns and sizes. Write for Bulletin FI.



INLAND CREOSOTE OIL

For better, longer-lasting preservation of timbers and wood piling. Inland-owned-and-operated coal mines, coke ovens and tar distillation equipment assure quality control at every step in production of Inland Creosote Oil. Its low benzol insoluble content of about 0.1% (American Wood Preservers Association specifications permit 0.5%) gives clean, deep-penetrating, longer lasting preservation.

INLAND SHEET PILING

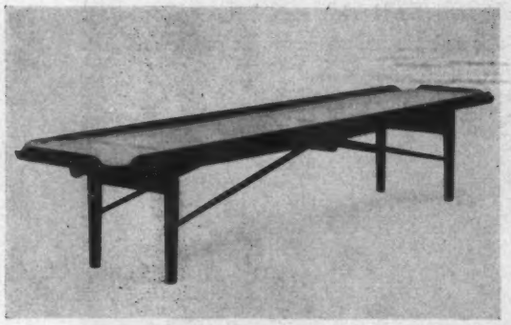
Taking the punishment of driving and pulling—being driven, pulled and re-driven as many as 15 times—Inland Sheet Piling has been used and depended on by piling contractors for more than 25 years. Made with highly efficient interlocks for water retention, it gives excellent service on single and double wall cofferdams, cellular breakwaters, jetties, docks, bulkheads and retaining walls. Rolled from a special analysis steel, with the strength, toughness and uniformity to withstand extreme and continued stresses. Available with all necessary sheet piling accessories. In Inland Copper-Alloy, at slight additional cost. And Inland sheet piling specialists with broad experience are available to help you on sheet piling problems. Write for Booklet SP2.

INLAND STEEL COMPANY
38 S. Dearborn Street, Chicago 3, Illinois

[Photo below: Carl Ullrich Inc.; others courtesy Museum of Modern Art

Left: One view of Paul Rudolph's installation for Good Design 1952. Right: side chair of wood with cellophane seat, designed by Italian Architect Gio Ponti, manufactured by M. Singer & Sons

Below: three new versions of the Eames chair; Charles Eames, designer; Herman Miller, manufacturer. Left: basket chair designed and manufactured by Dan Johnson. Right: "Sunfan" chair; designer, Sonna Rosen; manufacturer, Swedish Modern



Coffee table designed by Finn Juhl, manufactured by Baker Furniture Company

Nest of tables designed by Bertha Shaefer; M. Singer & Sons, manufacturer

GOOD DESIGN 1952: PAUL RUDOLPH'S INSTALLATION GETS RAVES

A YOUNG ARCHITECT stole the show as the Chicago opening in January of Good Design 1952 marked the start of the third year of the project sponsored jointly by the Museum of Modern Art in New York and the Merchandise Mart in Chicago.

Paul Rudolph's installation, done just before he returned to active service in the Navy, was described by *The New York Times* as "breathtakingly spectacular" and the phrase seemed hardly too strong to describe most reactions.

Mr. Rudolph used opaque and translucent screen walls of a variety of materials to break up the space, and varying intensities of lighting for restful and highly dramatic contrast.

Nearly 250 new items were displayed in the show, which for the first time also included selections held over from last June's exhibit. Till now the whole exhibition has been new in January.

Objects in the exhibit span a wide range of styles and materials as well as uses — though Exhibit Director Edgar Kaufman Jr. himself expressed disappointment at the small number of exhibits in the appliance field.

Mr. Kaufman noted that restrictions or fear of restrictions in some metals and plastics probably tends to reduce the number of new models. But he added: "It seemed unfortunate to the Selection Committee that a number of new models have a tendency to ornate gadgetry rather than straightforward design."

The more "sculptural" approach to design of contemporary furniture which has been notable in a number of lines introduced recently was represented in several of the selections; and taken all together, "modern" design as represented in the exhibit has a somewhat less austere aspect than it has sometimes worn.

At the same time, there are pieces in the exhibit that would not have shocked many people at a furniture exhibit of 50 years ago. These, presumably, are a soft answer to the hard question about "mixing" contemporary designs with traditional furnishings.

The New

TRI-PANEL

by Morgan

HERE IS TODAY'S

Outstanding

PANEL DOOR

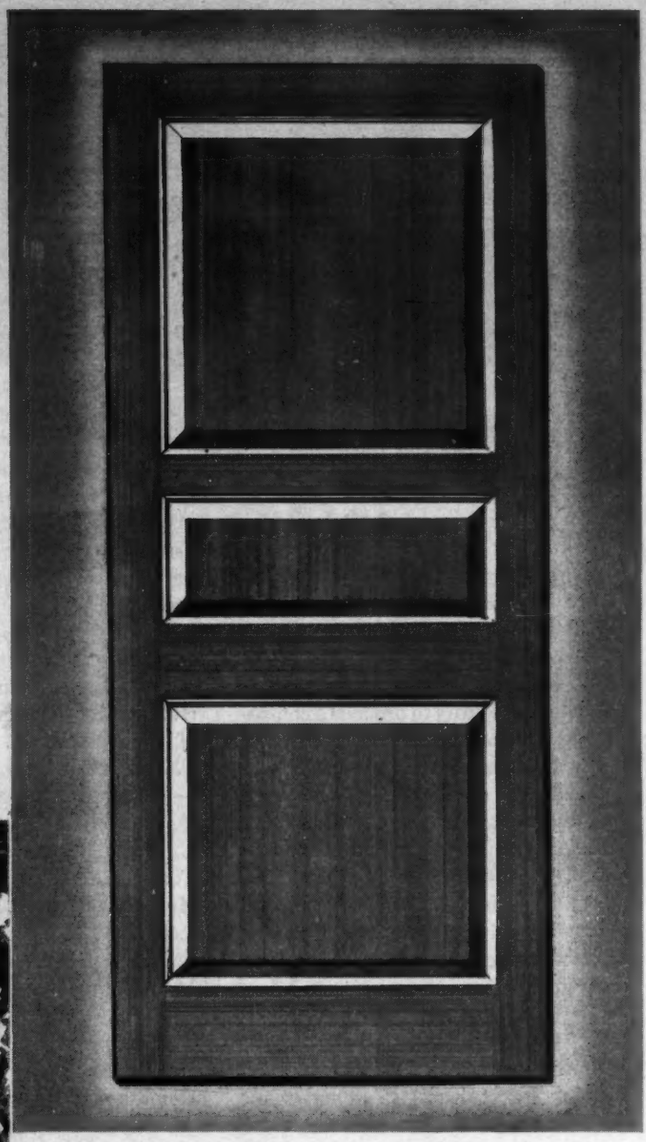
Designed by a Top Ranking Architect

to blend with Traditional, American Modern, or Ranch Style Homes! It's a full length picture of perfect dynamic symmetry, and precision detailing. Carefully proportioned panels are heavy, hip-raised, with ovolo sticking. Entire surface is sanded satin smooth for finishing as desired. Both M-117 and M-1073 Doors are available in standard sizes, in Kiln dried Pinewood. Here is another example of woodwork at its best. Send for your copies of Morgan Woodwork Catalogs.

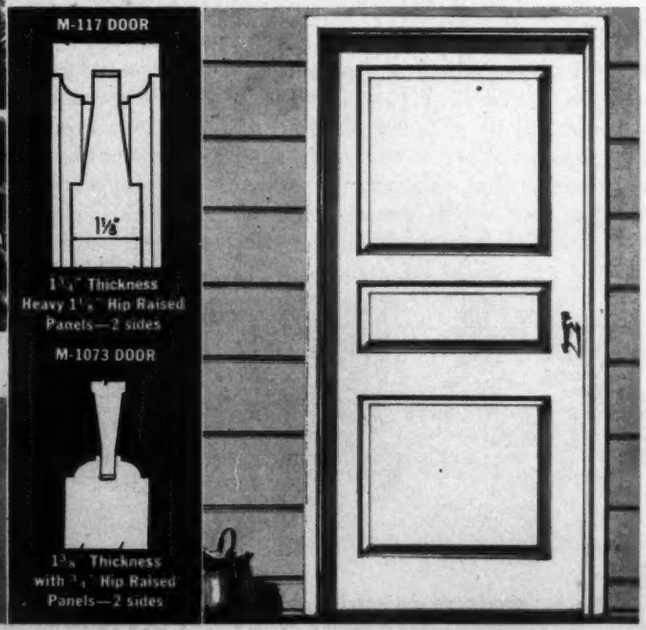
An Original Design by the Manufacturers of

MORGAN WOODWORK

Above: Tri-Panel Exterior Door M-117 in Morgan M-14 Entrance



Above: M-117 Tri-Panel Exterior Door; Below: M1073 Tri-Panel Interior Door



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Doors • Corner Cabinets • Stairwork • Morganwalls

Mantels • Kitchen Cabinets • Entrances • Trim

MORGAN WOODWORK

NEED FOR QUALIFIED DRAFTSMEN STRESSED AT TORONTO; ARCHITECTS REELECT EARLE SHEPPARD ASSOCIATION HEAD

ACTION TO INSURE a constant flow of qualified architectural draftsmen and assistants to architects' offices was urged at the convention of the Ontario Association of Architects recently held in Toronto.

Schools of architecture at Canadian universities were said to be doing a fine job of turning out future architects. But it was pointed out that large numbers of graduates, after obtaining the practical experience required for registration as architects, immediately opened their own offices.

"It takes 15 years to produce a competent architectural draftsman," said A. S. Mathers, prominent Toronto architect and chairman of the O.A.A. Committee on Education, "and we must take steps to ensure a steady supply of these men for our profession." Tribute was paid to the work of the School of Architectural Technology, Ryerson Institute, Toronto, in training architectural draftsmen and assistants.

Speakers Include Americans

Seminar speakers included A. L. Fleming K.C., Toronto, solicitor for the O.A.A., who discussed the legal aspects of professional practice, and O'Neil Ford of San Antonio, Tex., who gave an excellent talk on the Youtz-Slick "lift-slab" method of construction.

Donald Q. Faragher of Rochester, president of the New York State Association of Architects, was one of the distinguished guests attending the convention. Another was the Hon. Stanley Woodward, U. S. Ambassador to Canada, who addressed the annual dinner on the subject "My Northern Exposure."

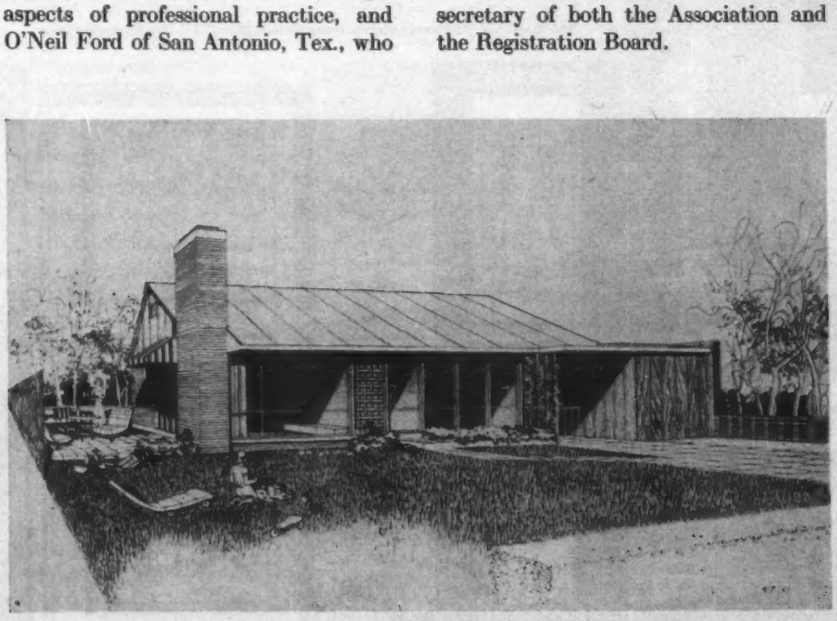
Officers Elected

Earle L. Sheppard of Toronto was reelected for a second term as president of the Association. Other officers for 1952 are: Gordon S. Adamson, Toronto — vice president (second term); Robert D. Schoales, London — treasurer; W. H. Gilleland, Ottawa, F. H. Marani, Toronto, Alvin R. Prack, Hamilton and Hugh P. Sheppard, Windsor — councillors.

Registration Board consists of H. H. Madill, Toronto — chairman; John M. Kitchen, Ottawa — vice chairman; W. E. Fleury and Eric W. Haldenby, both of Toronto; and William R. Souter, Hamilton.

John D. Miller of Toronto is again secretary of both the Association and the Registration Board.

Ontario President Earle L. Sheppard shows an American guest around convention exhibit. His companion is Donald Q. Faragher, Rochester, New York State Association of Architects president. Below: U. S. Ambassador Stanley Woodward, dinner speaker, receives gift paperweight from Mr. Sheppard



The composite house designed to meet majority requirements revealed in poll

2000 Women Polled on Tastes; House Designed to Match Them

CHATELAINE, a leading women's magazine, recently released the results of a poll taken on national housing needs and tastes and a design by Gibson and Pokorny, Toronto architects, which incorporated the majority findings.

Participants in the poll were 2000 women in all walks of life and all parts of Canada who serve on the magazine's Consumer Council. Their views, taken on other subjects in the past, have proven to be remarkably representative of national opinion.

Some highlights of the poll results:

Minimum lot size specified was 53 ft wide by 120 ft deep. Fifty per cent of women interviewed want to live in

(*Continued on page 384*)

fit for the walls of a Taj Mahal

Over 20,000 men labored 22 years to build the Taj Mahal in India, a building conceived primarily in white marble inlaid with mosaics of precious stones and said to be the most beautiful building in the world.

If the Taj Mahal, the loveliest of all world buildings, were being built today, the builders could not find a more perfect cement for setting the marble than Medusa StoneseT, white, non-staining masonry cement. In the 21 years since this amazing cement was introduced to the American architect and builder, it has found a place in setting, pargeting and pointing the most beautiful natural stone, marble, face brick, and glass block constructions in America.

StoneseT is non-staining. That means it is free from soluble alkalies that cause stains from weeping joints or staining of the mortar itself due to impurities. Besides, it is the best of all mortar cements when tinted mortar is required. StoneseT complies with Federal Specifications SS-C-181-b Type II. It has minimum shrinkage, produces uniform color in all joints and is used for back-up masonry. Ready to use when delivered on the job—no admixture other than sand is required. These features plus its economy make StoneseT the world's finest mortar cement. If you have a really fine job, be sure to specify Medusa StoneseT.

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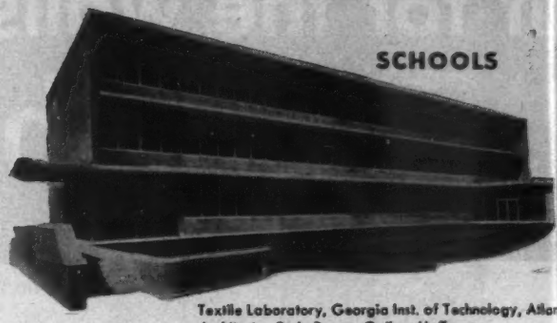
for any kind of building—one kind of w

APARTMENTS AND RESIDENCES

Twin Oaks Apartments, Kansas City, Mo.
Architects: Voskamp & Slezak



SCHOOLS

Textile Laboratory, Georgia Inst. of Technology, Atlanta,
Architects: Bush, Brown, Gailey, Heffernan

OSPITALS

Georgia Ba
Architects:

Quality Ap

ALUMINUM W

For client protection insist on windows bearing this Quality Seal

TESTED **FOR QUALITY MATERIALS**

TESTED **FOR SOUND CONSTRUCTION**

TESTED **FOR STRENGTH OF SECTIONS**

TESTED **FOR LOW AI INFILTRATION**

AVAILABILITY OF ALUMINUM WINDOWS

Don't be misled by false rumors. There is no need to use substitutes. Aluminum windows ARE AVAILABLE for immediate and future use. Present NPA Order M-4A permits unrestricted use of "Quality-Approved" aluminum windows, as class "B" building product under CMP. Consult individual manufacturers of "Quality-Approved" aluminum windows for up-to-the-minute information on their delivery schedules.

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# of windows does the job best!

OSPITALS

Georgia Baptist Hospital, Atlanta, Ga.
Architects: Stevens & Wilkinson, Inc.

COMMERCIAL AND INDUSTRIAL BUILDINGS

Philadelphia Inquirer Rotogravure Bldg., Philadelphia, Pa.
Architects: Albert Kahn Associates

Crowell-Collier Building, New York, N. Y.
Architects: Leonard Schultze & Associates

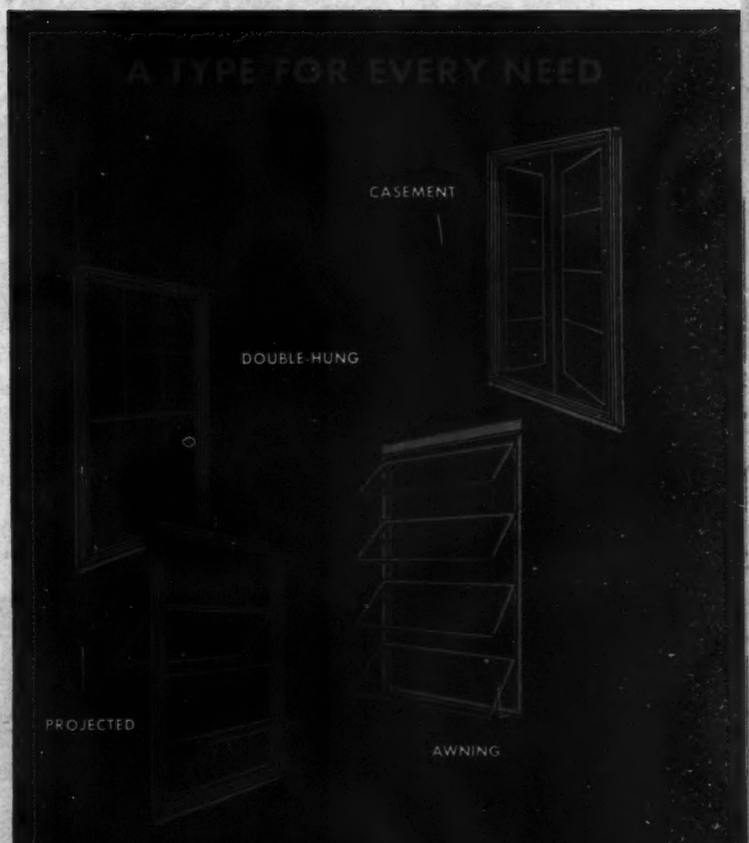
Approved WINDOWS!

OR schools and hospitals...for apartments and residences... for commercial and industrial buildings—the one sure way of ing your clients "the best" in windows is to specify "Quality-pproved" aluminum windows for every building you design.

uminum windows help clients save money year after year on intenance costs. They never need painting or costly repairs. ey cannot rust or rot. They always operate easily and will main beautiful for the life of the building.

sure! Specify the *one* kind of aluminum windows that gives u all these advantages—the kind that bears the "Quality-pproved" Seal. When you do, you can be sure of windows that ve been tested and approved by an independent laboratory—ndows which will assure complete satisfaction for you and ur client.

Quality-Approved" aluminum windows are available in double-ng, casement, projected and awning types. For detailed speci-ations and names of manufacturers, consult Sweet's (Section a/ALU) or write direct to Dept. AR-3.



Aluminum Window Manufacturers Association

74 Trinity Place, New York 6, N. Y.

CANADA

(*Continued from page 28*)

New Elementary School Built at $97,000 Cost

The View Royal Elementary School (photo at right) recently completed near Victoria, British Columbia, was built at a cost of $97,000, or 37 cents per cu ft, exclusive of architects' fees. Architects were Birley, Wade & Stockhill of Victoria.

It is built on a hillside site above a playing field, with its four elementary classrooms and one special classroom on the upper level and on the level of the field a large play space open to the field.

Construction is concrete and timber, with exterior facing of natural finish striated plywood, light gray-green wood trim and white sun screens. Interiors have plywood dadoes with fibreboard above. Daylighting is supplemented by bilateral lighting from semi-indirect fluorescent fixtures.

GLOBE
SPRINKLERS
FIREMEN EVERY 10 FEET
IS ANY BUILDING TRULY "FIRE-PROOF"?
No type of building is actually more "fire-proof" than a furnace. Consider, then, what happens to flammable contents when ignited in such a structure. Prevent FIRE in any building . . . by installing GLOBE Automatic Sprinklers, now.
GLOBE AUTOMATIC SPRINKLER CO.
NEW YORK . . . CHICAGO . . . PHILADELPHIA
Offices in nearly all principal cities
THEY PAY FOR THEMSELVES

HOUSING TASTES (*Continued*)

towns or suburbs, only 16 per cent in cities.

Construction that combines brick with other materials was a close choice over all-brick. Votes were 29 per cent and 28 per cent respectively.

One-story house was demanded by 53 per cent, while 85 per cent expressed desire for a basement and 92 per cent wanted a sloping roof.

The returns showed women receptive to some newer ideas — for example, the all-on-one-floor "ranch style" dwelling. On the other hand, they don't intend to give up such traditional features as a basement, which they feel has proven its usefulness, or the sloping roof, which they consider more attractive than a flat one.

Big windows of the "picture" variety were insisted on by 60 per cent. For ordinary use, sliding "up and down" windows were chosen by 74 per cent, far outstripped dormer and casement windows in favor.

Separate dining room was preferred by 43 per cent, all other votes being cast for dining room combined with either living room or kitchen.

Three bedrooms were urged by 55 per

(*Continued on page 34*)

Get the Whole Picture . . .

BEFORE YOU DECIDE ON ANY ROOF DECK!

SAME LIGHT STRUCTURAL STEEL THAT CARRIES OTHER PERMANENT ROOF DECKS

LEAKS THRU COMPOSITION COVERING OR MOISTURE FROM WITHIN, CANNOT IMPAIR STRENGTH OR INSULATING VALUE

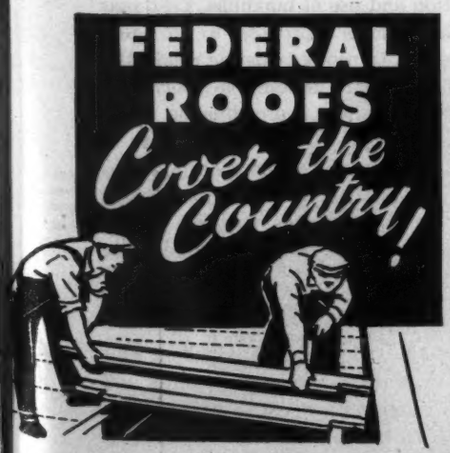
SATIN SMOOTH FINISHED CEILING EFFECT ON UNDER-SIDE REQUIRES NO PAINTING

PERMANENT, LIGHTWEIGHT, FIRESAFE, IMPERVIOUS STRUCTURAL CONCRETE LASTS AS LONG AS THE BUILDING—AND NO MAINTENANCE

THE ONLY TYPE OF LIGHTWEIGHT, PERMANENT, FIRE-SAFE ROOF DECK AVAILABLE, REQUIRING NO PAINTING, REPAIRS OR REPLACEMENTS!

WEATHERPROOF COVERING GOES ON IMMEDIATELY AFTER ROOF SLABS ARE LAID —NO DELAY WAITING FOR ROOF DECK TO DRY OUT

FEDERAL-
Featherweight
STRUCTURAL CONCRETE
PRECAST ROOF SLABS



All roofs look alike from the top, when the weatherproof covering is in place. But you've got to look deeper than that—down under the weatherproof covering to the roof deck material itself.

There just is no roof material to equal FEDERAL-Featherweight STRUCTURAL CONCRETE for lasting strength, resistance to weather, to moisture inside or outside the building, to heat, smoke, cinders, steam, gases or fumes. It cannot rot, rust or disintegrate.

For proof, you need only consider the thousands of Federal Roofs on foundries, forge shops, paper mills, railroad buildings and the like, where the roof really takes a beating—under conditions that only STRUCTURAL CONCRETE could possibly withstand.

Your roof deck should be paid for only once. Further expense for painting, repairs or replacements over the years is an unnecessary part of the overall cost—and must be anticipated with every other type of roof deck except precast STRUCTURAL CONCRETE, the original cost of which is its only cost.

Y BUILDING—*INDUSTRIAL OR INSTITUTIONAL*—IS A BETTER BUILDING WITH A FEDERAL ROOF!

MADE, LAID AND GUARANTEED BY

FEDERAL CEMENT TILE COMPANY

EXECUTIVE OFFICES: 608 SOUTH DEARBORN STREET • CHICAGO 5, ILL.

FOR FORTY-FIVE YEARS

SALES OFFICES IN PRINCIPAL CITIES

CANADA

(*Continued from page 32*)

cent; and the same percentage said they'd like to have one bedroom double as a den.

Combined kitchen-laundry was in accordance with wishes of 50 per cent.

Hobby room appears to be highly prized feature; 60 per cent said they had leisure time interests.

Canada's Largest Plant Under Way at Oakville

Ford of Canada's 32½-acre automobile assembly plant at Oakville, Ont., will have more floor area under one roof than any industrial building in Canada (photo of rendering above).

Site preparation has been completed and excavation for footings began in February. Giffels and Vallet of Windsor are engineers in charge.

The municipalities most affected, Trafalgar Township, in whose southeast portion the industrial colossus will be located, and the Town of Oakville, which possesses the necessary services and facilities, are bracing themselves to meet an expected influx of 20,000 or 30,000 people.

Resistance to Zoning

Three years ago the Township Council passed an area subdivision control bylaw which prohibits the sale of land by medes or bounds unless it is in a registered plan of subdivision.

However, the Council has consistently refused to enact a zoning bylaw to regulate the use of land and the character, location and use of buildings. Last year it turned down a proposal to provide a green belt to protect existing residential sections from undesirable encroachments of industry and commerce.

Most recent evidence of its ability to meet the challenge of new conditions was to give first reading to a bylaw which will make speculators pay for the installation of new roads, water and sewer mains.

Joint Planning Board Helps

Oakville, which has an excellent zoning law, watches the move on water and sewer mains with no small degree of interest. In the past, subdivisions in Trafalgar Township have been serviced with water provided by Oakville. The tremendous residential and industrial de-

(*Continued on page 36*)

El Camino College, California. Exterior concrete painted with Wesco Durasite
Marsh, Smith & Powell, Architects, Los Angeles

Sure, there's a colorful flat paint for

CONCRETE

...There's a Specialized Wesco Paint for Every Stucco or Masonry Wall

For exterior concrete you want a paint that gives an *absolutely uniform* non-glaring finish without laps or streaks. You need a paint that's lime-proof and "breathes" moisture vapor without causing peeling or flaking. That's DURASITE, Wesco's *specialized* exterior resin paint for dense surfaces... for years the choice of many leading architects for its durability and unequalled color values.

No *one* paint can be right for all surfaces, but there's a Wesco *Specialized* Paint for every masonry surface—old or new, painted or unpainted, dense, porous or patched—that will give it beauty and protect it for years.

Write for FREE Booklet "Masonry Painting Handbook" —37 photos of masonry surfaces with painting specifications of leading architects and painting contractors. Address Dept. T, in care of the Wesco plant nearest you.

WORLD'S MOST COMPLETE LINE OF

Wesco Masonry Paints

See our folder in Sweet's

WESCO WATERPAINTS, INC. • SINCE 1906
Trenton 7, N.J. • Matteson, Ill. • Good Hope, La. • Berkeley 10, Calif. • Los Angeles 23, Calif. • Portland 9, Oregon • Seattle 9, Washington • Montreal 22, Quebec • Sydney, Australia

SCHOOL BUILDINGS

FROM KINDERGARTEN TO UNIVERSITY

Saddle Rock Elementary School, Great Neck, N. Y.
Architects: Starrett & Van Vleck, Reginald E. Marsh

aluminum WINDOWS

by GENERAL BRONZE

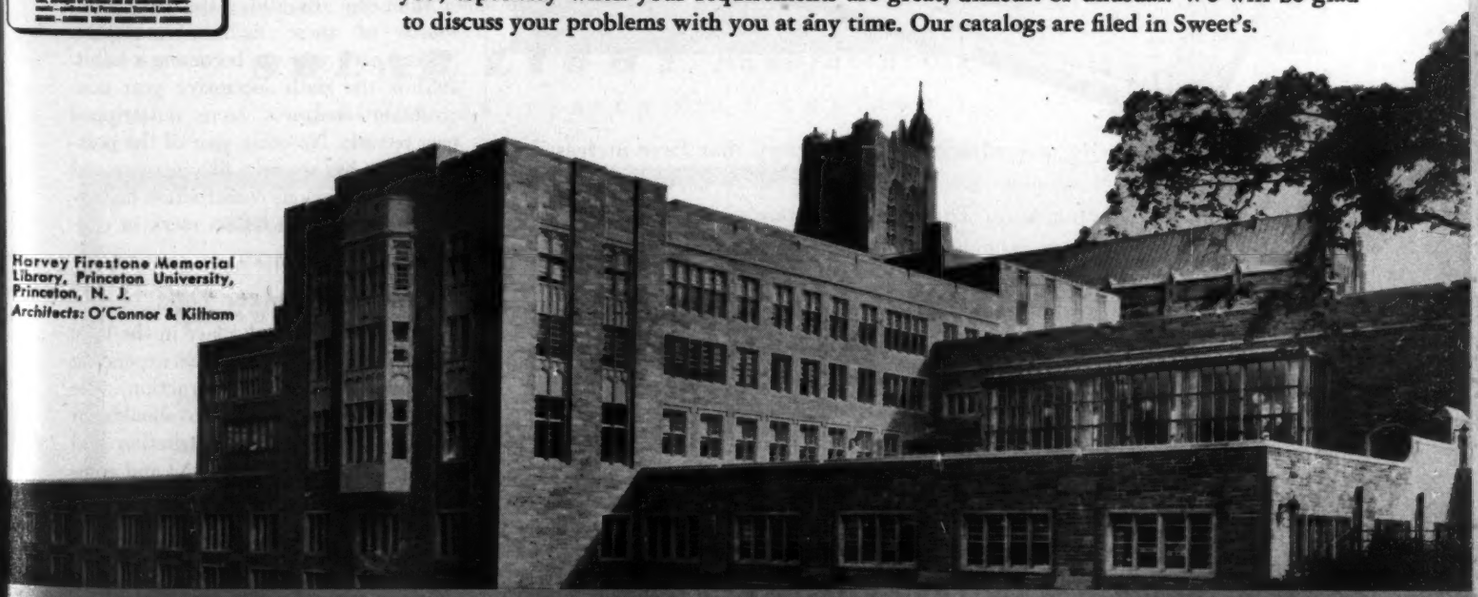
For more than 40 years "windows by General Bronze" has been synonymous with fine quality windows.

During these many years we have worked closely with hundreds of leading architectural firms on both large and small building projects—schools, hospitals, apartments and monumental buildings.

From this extensive experience, we have learned what features architects want in windows, spandrels, curtain walls and architectural metal work—what kind of help architects appreciate most—what makes their job run easier and smoother.

Because of our unequalled facilities and our vast experience, we are well qualified to serve you, especially when your requirements are great, difficult or unusual. We will be glad to discuss your problems with you at any time. Our catalogs are filed in Sweet's.

QUALITY APPROVED



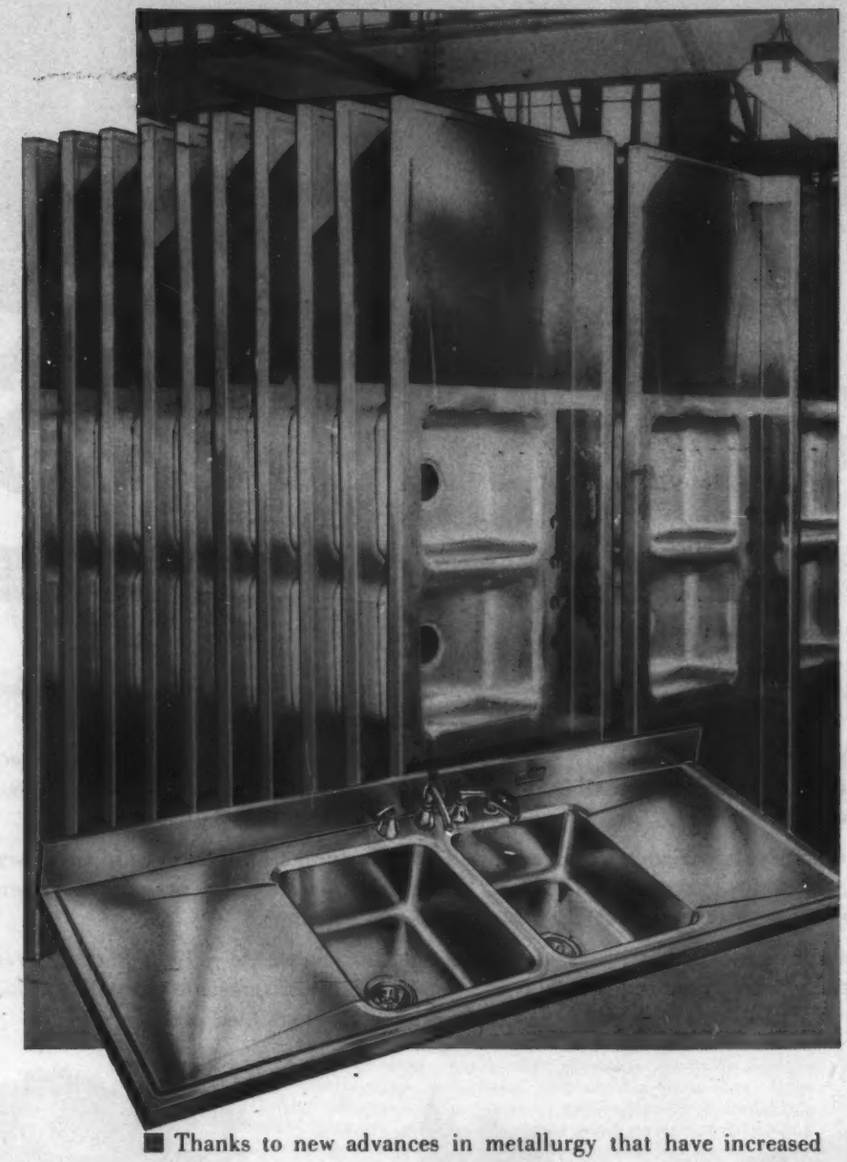
Harvey Firestone Memorial Library, Princeton University, Princeton, N. J.
Architects: O'Connor & Kilham

GENERAL BRONZE CORPORATION • GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION—Residential Aluminum Windows.
BRACH MFG. CO. DIVISION—Multel, T. V., Radio and Electronic Equipment. STEEL WELDMENTS, INC. DIVISION—Custom fabrication in steel and iron.

ELKAY LUSTERTONE SINKS

of Stainless Steel being shipped again!



■ Thanks to new advances in metallurgy that have increased supplies of stainless steel, the famous Elkay LUSTERTONE Sink is in production again. There's enough stainless steel available for Elkay to resume production, but *not enough to meet* the accumulated consumer demand.

Any home is a better home with LUSTERTONE in the kitchen. It's the *only* sink guaranteed to outlast the home—never needs upkeep, never deteriorates, need never be replaced. Specify LUSTERTONE, because the lifetime cost is lower!

To make sure *your* clients get the LUSTERTONE they've been waiting for, see that your contractors order now—or file your specifications with Elkay *without delay*.

See SWEET'S 24b/Elk in Architectural, 7a/Elk in Builders

ELKAY MANUFACTURING COMPANY

1870 South 54th Avenue • Chicago 50, Illinois

The World's Oldest and Largest Manufacturer of Stainless Steel Sinks

CANADA

(*Continued from page 34*)

velopment in the offing may produce demands which cannot be met by Oakville's present system.

A joint Oakville-Trafalgar Planning Board is shared by the two municipalities. Its members are remarkably competent, and their efforts have accomplished much for the good of present and future residents. Whether or not the need for engaging a professional planning consultant is now recognized remains to be seen. None has been appointed to date.

No Building Boom Seen

Oakville does not expect much new construction within its borders as a result of Ford's arrival. The town is practically all built up.

But property values on the main street are skyrocketing. Three banks, whose location decisions are usually reliable indicators of anticipated business activity, have announced they intend to open branches in Oakville. With four already there, the total will be seven.

1951 Building 50 Per Cent Over Record 1950 Total

Construction contracts worth $2.3 billion, 50 per cent over the record $1.5 billion in 1950, were awarded in 1951, which thus became the best year in Canadian building history.

MacLean Building Reports Ltd., source of these figures, comments: "Gains each year are becoming a habit. 1951 is the sixth successive year construction contracts have outstripped past records. No other year of the postwar boom has shown a like increase and no year in previous construction history has topped the $2 billion mark in contract awards."

Housing No Longer Tops

Major changes took place in the type of work being done by the expanding industry. Housing construction, the volume leader since 1943, was shouldered aside by engineering construction and was passed even by industrial and commercial construction in percentage share of total volume of 1951 contracts.

Biggest slice of the construction pie went to engineering, with 37.3 of the total. The portion given commercial

(*Continued on page 384*)

there ought to be a law to protect your children!

Inadequate school lighting is a more insidious menace to school youngsters than any dread disease. And who but the architect-engineer is best qualified to lead the battle against inferior illumination . . .

You know how often the lighting specifications are the last—and the least—on the school budget. You know how often a compromise may save dollars . . . and destroy young eyes.

No, you're not in this battle alone. School officials want to do the right thing . . . if only they can be shown the light. But you are the leader, the professional whose judgment and integrity are unquestioned. You have help, lots of sound, constructive help if you'll only make use of it . . .

Here, at SOLARLITE, we have invested our money, years and resources developing fixtures for every school lighting task . . . from a simple "Exit" light to our newest DEAN, the latest, the finest fixture anyone has yet produced for adequate, efficient classroom lighting.

But this is only the beginning. For while laboratory work has created this pronounced advance in fixtures, SOLARLITE engineers have gone right out into the field . . . yes, into schools themselves to explore lighting problems and results intimately. They have talked with teachers, school officials and the pupils themselves . . . they have pioneered new methods of lighting survey . . . in their zealous efforts to develop the finest possible school lighting.

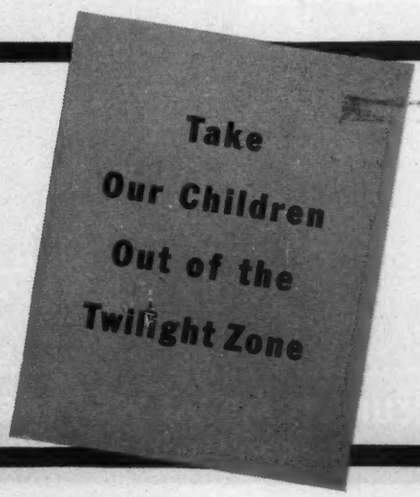
If you have a school project on your boards now . . . if you ever hope to get one . . . before you do anything else, find out all the things SOLARLITE can do to help you lick the lighting problem. We will match our time with yours . . . we won't get in your hair . . . and together we can do so much to help America's school children.

SOLAR LIGHT *manufacturing company*

1357 S. JEFFERSON ST. • CHICAGO 7, ILL.

Write for your free copy of "Take Our Children Out of the Twilight Zone"

Here's a parade of the complete line of SOLARLITE school fixtures with data . . . including the revolutionary Chalkboard Dean, library stack lighting, etc. as well as successful school installations and other useful material . . . all compacted into an easy-to-use 8-page booklet. Write today.



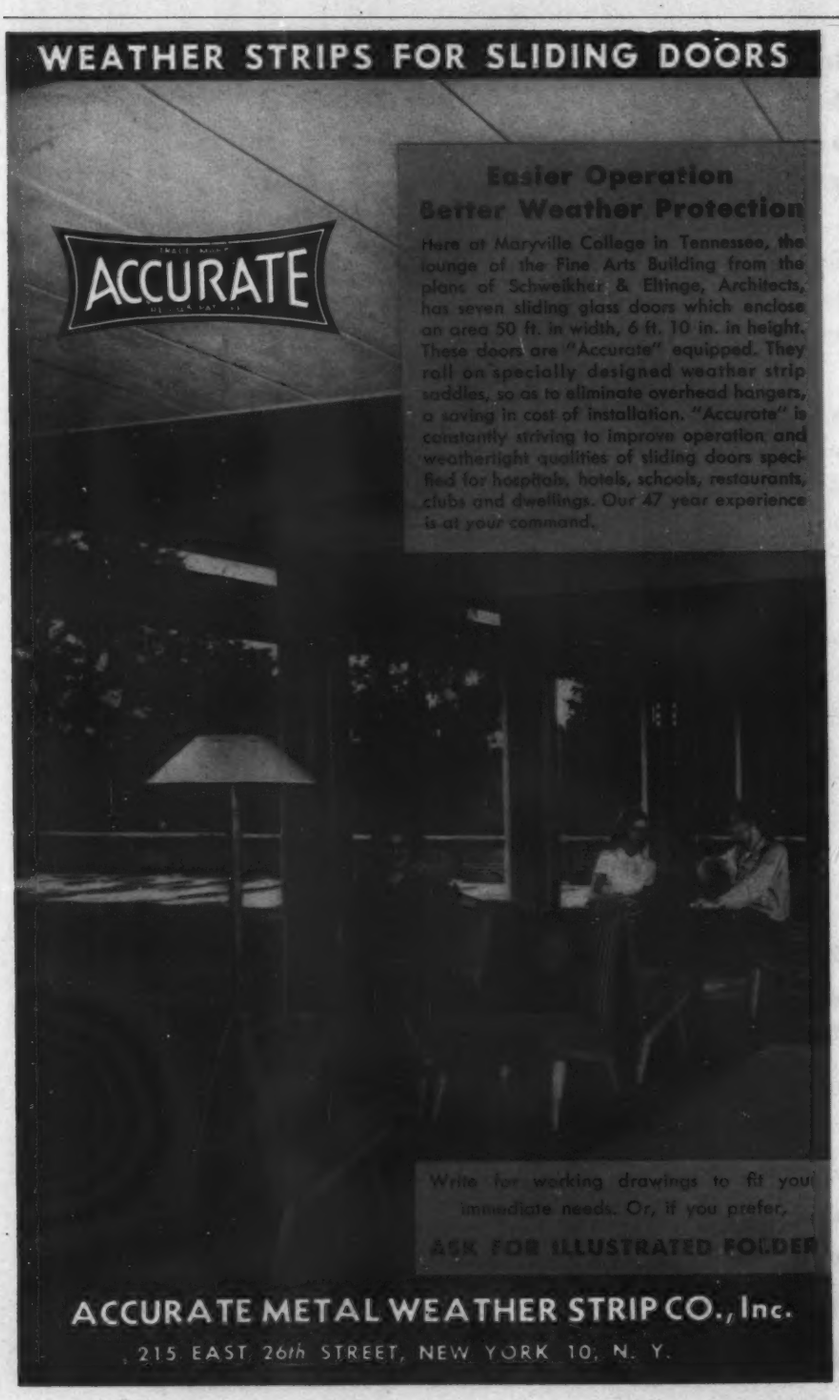
 By Ernest Mickel

GSA Prepares Defense Code, Reports Research on Blast

THE NEW REPORT to Congress of the General Services Administration (covering the fiscal year 1951, ending last June 30) projected the agency into the limited circle of federal groups concerned with design for atomic defense.

GSA, of which Public Buildings Service is a part, is always engaged in research to simplify and improve federal building construction; but its relatively new activities in the civil defense field have now been given special notice.

A code has been prepared for the protection of federal personnel and property against hostile attack. The annual report notes that this code is to be made the basis for standards to be issued by other government agencies for the protection of civilians and their property.


WEATHER STRIPS FOR SLIDING DOORS
ACCURATE
Easier Operation
Better Weather Protection
Here at Maryville College in Tennessee, the lounge of the Fine Arts Building from the plans of Schweikher & Elfinge, Architects, has seven sliding glass doors which enclose an area 50 ft. in width, 6 ft. 10 in. in height. These doors are "Accurate" equipped. They roll on specially designed weather strip saddles, so as to eliminate overhead hangers, a saving in cost of installation. "Accurate" is constantly striving to improve operation and weathertight qualities of sliding doors specified for hospitals, hotels, schools, restaurants, clubs and dwellings. Our 47 year experience is at your command.
Write for working drawings to fit your immediate needs. Or, if you prefer,
ASK FOR ILLUSTRATED FOLDER
ACCURATE METAL WEATHER STRIP CO., Inc.
215 EAST 26th STREET, NEW YORK 10, N. Y.

Blast Research on Windows

Special investigative work by GSA researchers has been done in the field of window construction. In cooperation with the Atomic Energy Commission and the Defense Department, research work has been undertaken in GSA laboratories to determine the resistance of standard glazing and window construction materials to atomic blasts.

The report to Congress indicates that designs are being prepared from this research for windows that will have greater resistance to atomic blast force. A reduction in the hazards encountered from flying glass is an important objective of the tests.

GSA explained that similar investigations are being planned to determine the resistance of existing office buildings and hospitals. From the data obtained, standards for more resistive construction will be prepared.

Warehouse Layouts Developed

The annual report further disclosed that GSA's investigations have turned up improvements in warehouse layout and design that will save time and money. Typical warehouse plans have been developed which will reduce the time required for specific operations in buildings of this type.

"Consideration was given to minimizing maintenance costs through reduction in the amount of special equipment and in the distances traveled by such equipment," the report stated. The layouts have been incorporated in a brochure for distribution to all GSA regional offices for guidance in the procurement of warehouse space.

"Designs have been developed for two types of warehouses being constructed for the storage of strategic and critical materials," the GSA report said. "These types — one of steel column and steel roof construction, and the other of wood column and wood roof construction — have resulted in a reduction of the time formerly required for study and preparation of working drawings and award of contracts.

"These standardized designs include all architectural, structural and mechanical features required for efficient warehouse operation and also include provision for a standard type of reservoir required for fire protection.

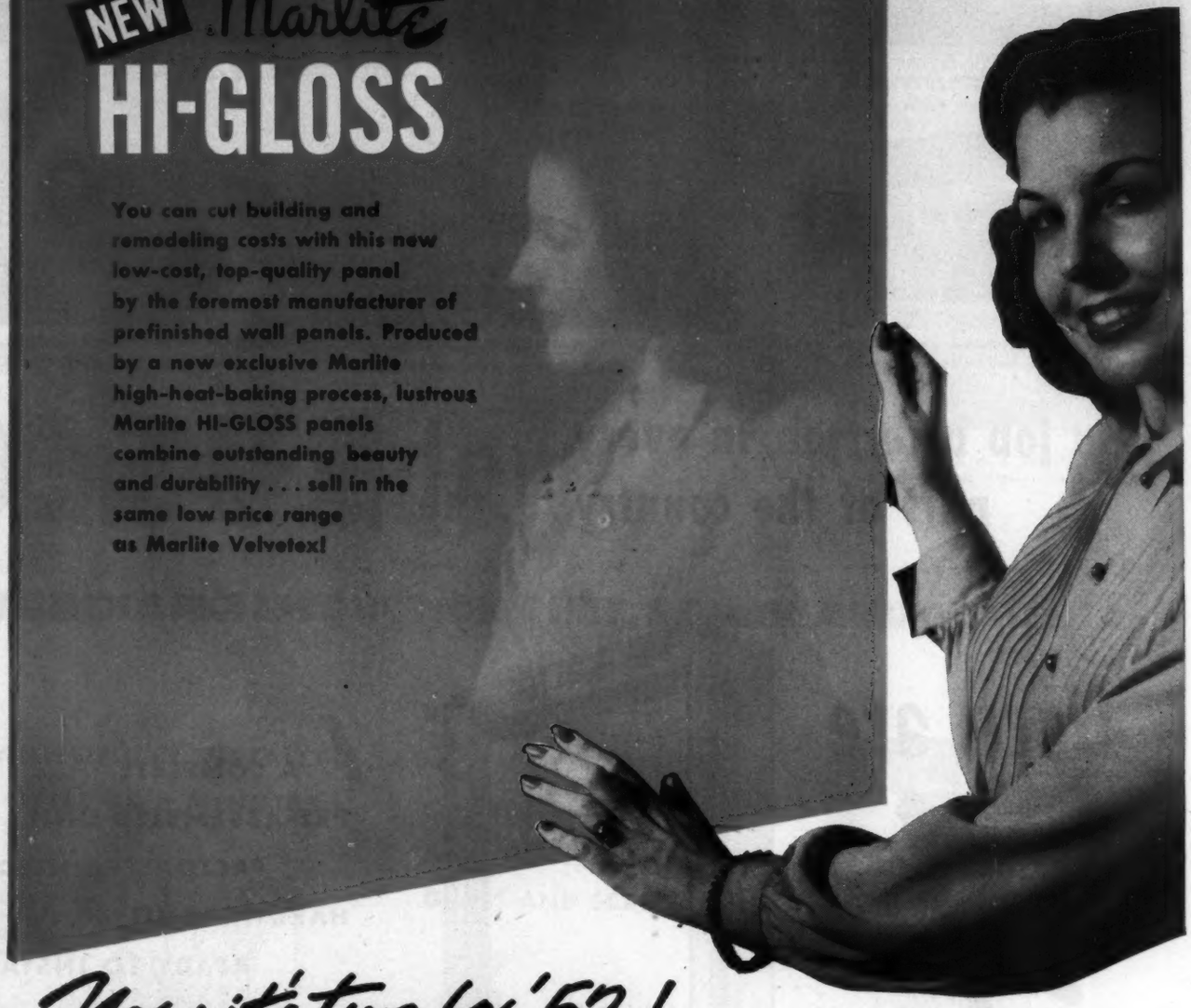
"Bids which have been received,

(*Continued on page 348*)

NEW Marlite

HI-GLOSS

You can cut building and remodeling costs with this new low-cost, top-quality panel by the foremost manufacturer of prefinished wall panels. Produced by a new exclusive Marlite high-heat-baking process, lustrous Marlite HI-GLOSS panels combine outstanding beauty and durability . . . sell in the same low price range as Marlite Velvetex!



Now it's two for '52!

These two new low-cost Marlite high-heat-bake panels will save costs, add quality and customer satisfaction for you in '52!

NEW MARLITE WOOD PANELS . . . *authentic reproduction of fine wood grains, costing far less than most unfinished fine woods.*

NEW MARLITE HI-GLOSS . . . *a high quality, low-cost panel, available in many striking colors and patterns.*

Made possible through revolutionary manufacturing techniques, Marlite HI-GLOSS and WOOD panels bring economy and sales appeal to all types of interiors. The quick and easy installation of wall-size panels reduces your cost. The durable, easy-to-clean walls in decorator correct colors will please your customers.

Get complete details at your lumber and building materials dealer, or write Marsh Wall Products, Inc., Dover, Ohio. Subsidiary of Masonite Corporation

SANTA ANA, CALIFORNIA. Rusco used on all Barkley Square and Sunshine Homes by builder Burt Huff.

FT. CAMPBELL, KENTUCKY. Wherry Housing Project, Southern Apartments, utilized thousands of Rusco Prime Windows.

PHILADELPHIA, PENNSYLVANIA. Plymouth Valley Homes, built by Ernie and Nolan, feature Rusco.

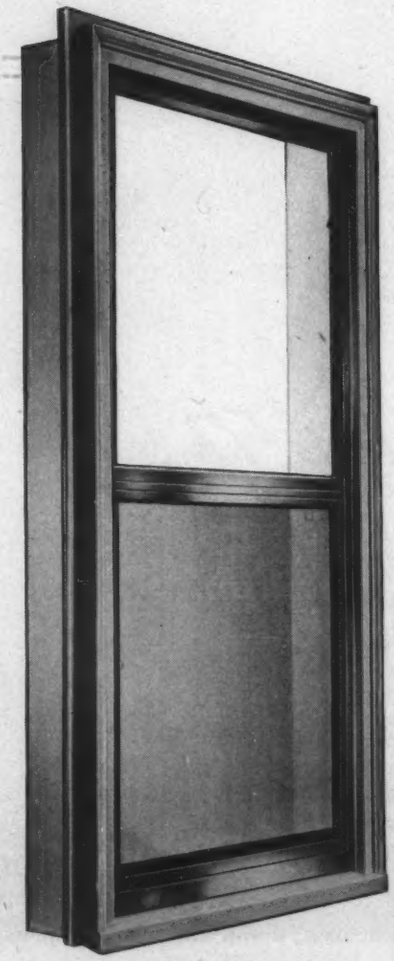
EVERETT, MASSACHUSETTS. State-aided Housing Project consisting of multiple-dwelling units.

HOUSTON, TEXAS. All 84 units in McGregor Terrace Addition are built with Rusco.

On job after job, in every part of the country... the RUSCO

IS MAKING BIG

here are 4 big reasons why



1 A COMPLETE, PRE-ASSEMBLED UNIT, FACTORY PAINTED, HARDWARE FITTED, READY TO INSTALL

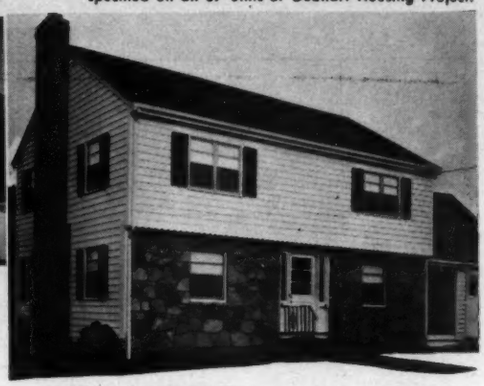
all in one unit

GLASS - SCREEN
BUILT-IN WEATHERSTRIPPING
INSULATING SASH (*Optional*)
SURROUND (WOOD CASING, METAL CASING OR STEEL FINS)

CLEVELAND, OHIO. Shaker Towers, deluxe apartment building, features Rusco Prime Windows with insulating sash.

BALTIMORE, MARYLAND. Rusco Prime Windows specified on all 87 units of Gebhart Housing Project.

PORT WASHINGTON, WISCONSIN. P & H prefabricated homes are now built with Rusco Prime Windows.

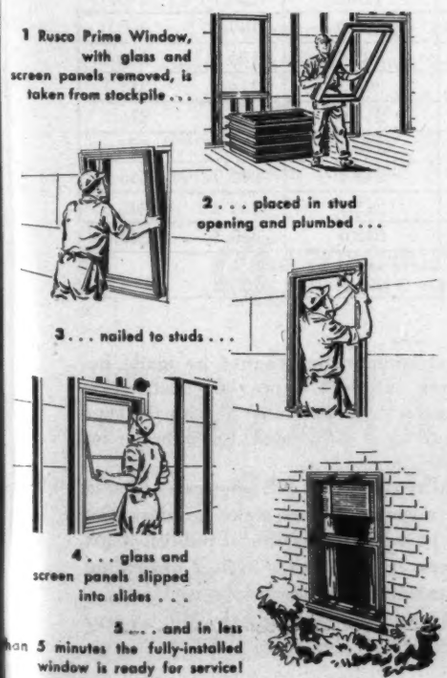


QUINCY, MASSACHUSETTS. A. J. Spinelle, builder of Furnace Brook Acres homes, highly recommends Rusco.

Prime Window

SAVINGS IN CONSTRUCTION TIME, LABOR AND MATERIALS

2 CAN BE FULLY INSTALLED IN AS LITTLE AS 5 MINUTES


1 Rusco Prime Window, with glass and screen panels removed, is taken from stockpile . . .
2 . . . placed in stud opening and plumbed . . .
3 . . . nailed to studs . . .
4 . . . glass and screen panels slipped into slides . . .
5 . . . and in less than 5 minutes the fully-installed window is ready for service!

3 CONVENIENCE OF COMPLETELY REMOVABLE AND INTERCHANGEABLE GLASS AND SCREEN PANELS

GLASS AND SCREEN INSERTS EASILY REMOVED FROM INSIDE FOR CONVENIENCE IN CLEANING. The Rusco removable sash feature has tremendous appeal as a convenience and safety feature.

4 NO COSTLY CALL BACKS FOR ADJUSTMENTS

RUSCO

HOT-DIPPED GALVANIZED

PRIME WINDOW

AVAILABLE WITH OR WITHOUT INSULATING SASH

Made of Hot-Dipped Galvanized Steel, or Equal, Bonderized and finished with baked-on Outdoor Aluminum Enamel

For additional information or specifications write or wire . . .

F. C. RUSSELL COMPANY, Dept. 7, AR-32, Cleveland 1, Ohio

IN CANADA: Toronto 13, Ontario

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
Oct. 1951	274.4	272.5	264.9	266.6	263.8
Nov. 1951	274.4	272.5	264.9	266.6	263.8
Dec. 1951	274.4	272.5	264.9	266.6	263.8
	% increase over 1939				
Dec. 1951	122.2	122.6	102.7	99.9	102.8

ATLANTA

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
Oct. 1951	214.6	216.4	206.6	204.7	208.3
Nov. 1951	214.6	216.4	206.6	204.7	208.3
Dec. 1951	216.1	219.0	207.9	205.0	208.9
	% increase over 1939				
Dec. 1951	150.4	163.5	118.6	110.5	120.6

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
Oct. 1951	255.6	252.4	241.2	243.9	241.6
Nov. 1951	255.6	252.4	241.3	243.9	241.6
Dec. 1951	255.4	252.0	241.8	244.3	242.0
	% increase over 1939				
Dec. 1951	131.8	135.5	104.9	103.9	103.4

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
Oct. 1951	248.5	243.5	242.1	244.9	245.5
Nov. 1951	248.5	243.5	242.1	244.9	245.5
Dec. 1951	246.9	241.3	242.4	245.3	245.5
	% increase over 1939				
Dec. 1951	133.8	143.0	106.5	101.2	110.7

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

another **HOMASOTE FIRST** — *designed to reduce the cost of building*

For the speedy, economical construction of *FIELD OFFICES* and *TOOL SHEDS*...

. . . use a material that's strong and crackproof—that's completely weatherproof, light in weight and easily worked . . . a material that's made in Big Sheets—up to 8′ x 14′—in sizes two men can handle easily and at considerable savings in labor and materials.

Use Homasote—the oldest and strongest insulating-building board on the market. Here is a board that has proved itself in industrial, residential and farm buildings—and in every climate from Alaska to Little America. Homasote's resistance to weather makes it the perfect *protective* material for field offices and tool sheds.

Homasote saws and nails like wood and need not be painted. The Big Sheets mean that you build better, faster and at less cost. Field offices and tool sheds may be easily transported from job to job.

For comfortable working conditions for men in the field—for full protection of records and tools—specify Homasote . . . Let us send you literature and specification folder showing its many uses.

Nova Sales Co.—a wholly owned Homasote subsidiary—distributes the Nova Roller Door, Nova-I. P. C Waterproofing Products, Nova Sidewalls and the Nova Loc-Nail. *Write for literature.*

HOMASOTE COMPANY
TRENTON 3, N. J.

SEE OUR CATALOG IN SWEET'S

—makers of the oldest and strongest insulating-building board on the market

Homasote Company, Trenton 3, N.J. Dept. 48A
Send literature on Homasote Insulating-Building Board.

ADDRESS.....

NAME.....

CITY & ZONE.....

My lumber dealer is.....

How come?

While other builders' houses remained vacant, they sold 114

"Why, of course, I'll be glad to comment on my G-E Kitchen. Do come in, and let me tell you why I'm still as enthusiastic about my G-E Kitchen as I was the first day we signed up for this house.

"I don't mind telling you that it was the well-designed General Electric Kitchen that *sold* me on this house. My husband and I felt that a builder who put so much thought into the kitchen certainly must have put just as much thought and quality into the rest of the house. I'm sure many of my neighbors bought for the very same reason!

HERE'S Mr. Abner Rosenberg and Mr. Albert Benenson, partners of Yedlin & Company, of Wallingford, Connecticut. They erected the Beth Page Project of 114 houses in Bethel, and *sold the entire development before it was completed.*

Here you see them calling on Mrs. C. R. Macgregor of 23 Fairfield Drive, after she had lived in one of the houses several months. They want to get her candid opinion of the G-E Kitchen that was installed in her home.

"I always wanted a General Electric Refrigerator in our new house. It's such a dependable, trouble-free refrigerator and there's so much space in it. I don't think there's a finer refrigerator in the world!

"Our friends are envious of our General Electric Dishwasher. Messy dishes are no longer a problem with us. We simply place them in here, turn the switch, and our dishes and silverware come out all shiny and clean.

". . . and I must tell you about my Automatic G-E Clothes Washer, too. It gets clothes so nice and white and dry, they're a dream to iron!

"I think there's nothing like *electricity* for an oven. No odors, no uneven heat, and it's cool even in the summertime. My G-E is wonderful."

"Good!" says Mr. Benenson, "We put in these G-E Ranges because we found most women *preferred* General Electric appliances!"

"Here's another thing I like about my G-E Kitchen, Mr. Rosenberg; the interior wire shelves are perfect. They're so easy to keep clean and everything in the cabinets is in plain view! This G-E Kitchen certainly was designed with *me* in mind!"

● General Electric equipment does not call for a luxury price-tag!

The 114 houses in the Beth Page Project were tagged at only $10,399.00 each.

And that included the full price of the General Electric Kitchen-Laundry!

Imagine what a selling feature General Electric equipment can be in *your* houses . . . just as it is for Messrs. Rosenberg and Benenson, and many other successful builders throughout the country.

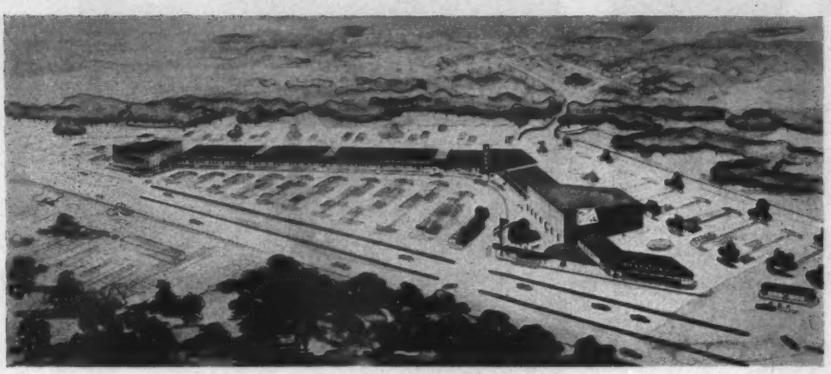
Do you know, too, that even today under rigid credit restrictions, the complete General Electric Kitchen adds as little as $3.50 a month extra to monthly mortgage payments!

No wonder even families with incomes of $50 a week are enjoying the comfort of a G-E Equipped Kitchen-Laundry.

Why not start selling your houses faster, too? See your local G-E distributor, or write to the Home Bureau, General Electric Company, Louisville 2, Kentucky.

GENERAL ELECTRIC

REQUIRED READING



Left: projected L-shaped shopping center on Route 4, Hackensack, N. J. Kelly & Gruzen, Architects. Six arcades cut through the line of stores enabling those parking in the rear to reach the front without long detours

SHOPPING CENTERS

***Shopping Centers, Design and Operation.** By Geoffrey Baker and Bruno Funaro. Reinhold Publishing Corp. (330 W. 42nd St., New York 18, N. Y.), 1951. 9 by 11½ in. 288 pp., illus. $12.00.*

REVIEWED BY MORRIS KETCHUM, JR.

Anyone interested in planning, developing, building, operating or renting space in a shopping center should be grateful to the authors of this scholarly guidebook. They have carefully analyzed all the basic factors underlying the design of shopping centers, correlated all their research material into readable form and provided a comprehensive survey of every noteworthy center planned or built to date.

The first steps in the development of a shopping center — site selection and market analysis — are clearly described. The now standardized methods used to logically determine the size of a center's trading area, to analyze the spending power and shopping habits of its potential customers, and to calculate its probable share of their shopping dollars are all well defined. Site considerations have been carefully scrutinized. Proper emphasis is placed on accessibility, highway capacity, cost and zoning. One regrets, however, the fact that there is no mention of the vital importance of obtaining a *unified* site of the right shape and size. Almost every second rate shopping center in this country owes its deficiencies to the fact that its site is split up in some way by a public highway, or is too long and narrow for a proper distribution of buildings and parking areas, or is too small for full peaktime parking capacity.

Parking ratios, methods, and planning principles are brilliantly analyzed. The pros and cons of parking ratios based on unit sales versus ratios based on a rule-of-thumb relationship between building and parking areas, of angle parking versus ninety degree parking, are all carefully investigated. Based on his own experience, this reviewer finds himself in complete agreement with the authors as to the greater value of both unit sales ratios and a ninety degree parking system.

The authors' analysis of merchandise handling and store planning problems in shopping centers is less complete. The unpleasant confusion and the dangerous hazards inherent in the intermingling of auto, truck, and pedestrian traffic routes are not thoroughly discussed nor is the value of completely separating all these traffic streams given enough emphasis. The authors do not seem to realize, as well, the vital necessity for minimizing the distances travelled by shoppers on foot. In describing one method for isolating service by placing a truck court in the center of a store group, they fail to point out that this solution creates maximum shopper walking distances around the perimeter of stores. They state that overhangs and walkways should protect shoppers from the weather, yet none of the examples shown in photographs accomplish this simple function.

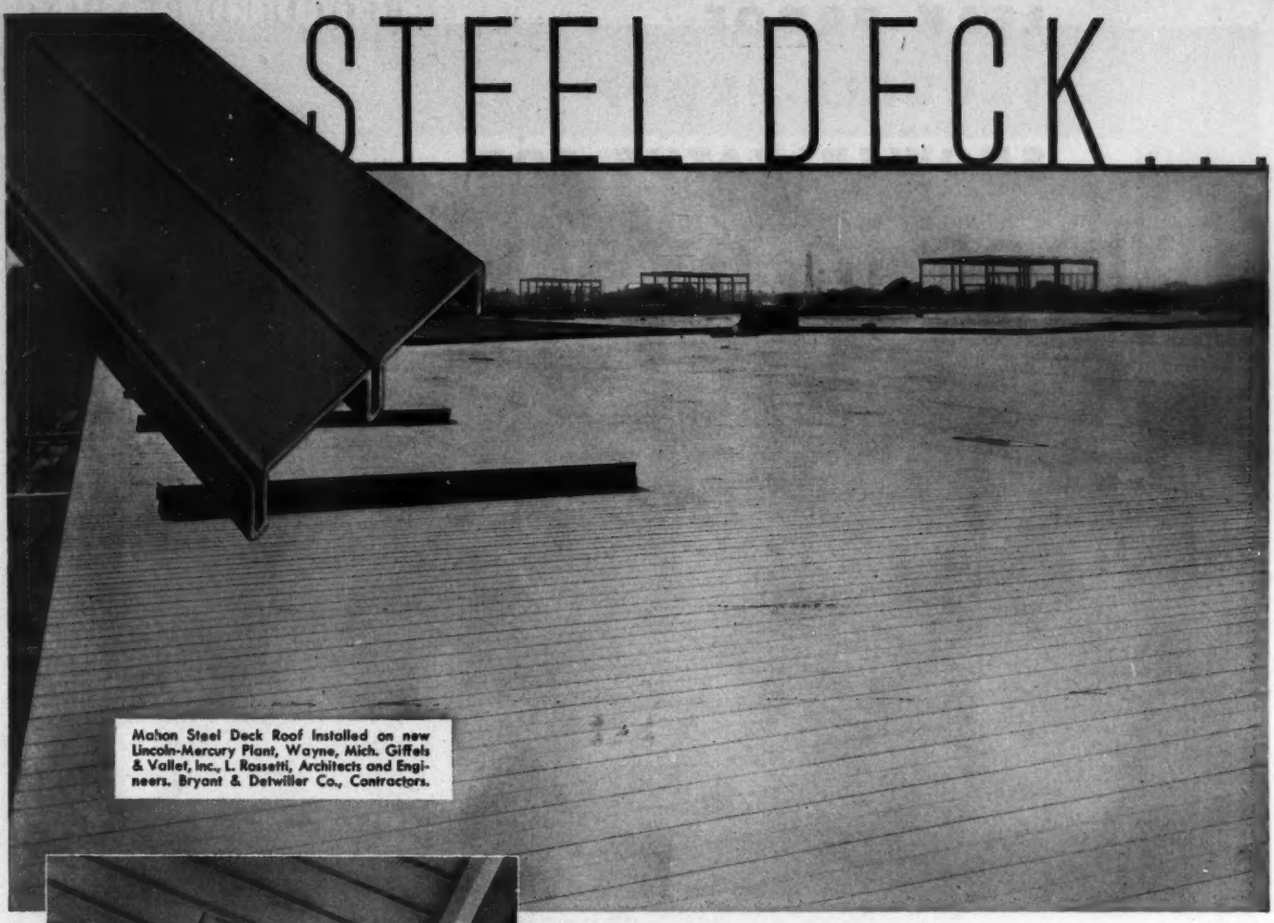
Site planning is skimmed over lightly. There is an interesting but brief comparison of ten different shopping center plans but no clear-cut statement of basic planning principles. The reader is not warned that no well-planned shopping center should be split into fragments by highways; that store buildings should be closely grouped, not isolated; that shopper walking distances must be minimum, not maximum; that unified and separate traffic systems for autos, trucks, and pedestrians are essential. Inflexible structural systems dividing rows of stores into frozen compartments, duplicative store fronts facing in several directions, and honky-tonk signs and architecture deserve stronger condemnation.

This same uncritical viewpoint carries through the comparative analyses of 63 shopping centers. It is no fault of the authors that their comprehensive survey includes every type of planning — from realtor's nightmares to progressive architectural solutions. This book would have been very thin and incomplete if only the best available material had been shown. The field is new. Almost any shopping center can operate successfully today even if poorly planned, thanks to good times and lack of competition. When more and better centers have been built, most of today's shopping centers will have their worries. The first sign of bad times will see many of them on the rocks.

It is probably too much to expect a guidebook to be both selective and comprehensive. The art and science of shopping center design is still in its infancy; not many definite standards have been established. The great value of this volume is that, properly used, it points the way from past mistakes to future triumphs.

(Reviews continued on page 48)

STEEL DECK...



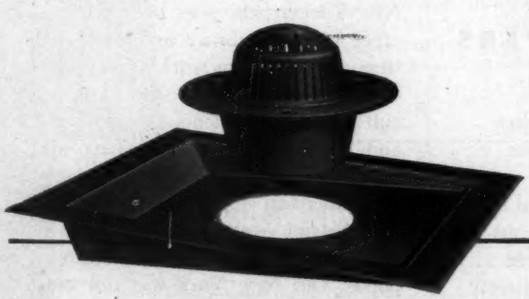
Mahon Steel Deck Roof Installed on new Lincoln-Mercury Plant, Wayne, Mich. Giffels & Vallet, Inc., L. Rossetti, Architects and Engineers. Bryant & Detwiller Co., Contractors.

BUILT-UP SADDLES ELIMINATED

Built-up saddles are eliminated in Steel Deck Roofs. Purlins can be set to create valleys at sump locations in the drainage area. Steel Deck can be warped to conform. No additional deck plates are required—no cutting or fitting necessary.

1,500,000 Sq. Ft. of Steel Deck Protects New Lincoln-Mercury Plant!

The increasing, widespread use of Steel Deck in roof construction in both industrial and commercial buildings is a logical development . . . because, no matter how you compare different types of roof construction, and materials employed, you will find that Steel Deck is the most economical, permanent, firesafe roof material available today. Its light weight permits structural economies, and the fact that it can be insulated to any degree, to produce specific thermal properties for any temperature range, reduces total roof cost per sq. ft. to an absolute minimum in any given locality. Mahon Steel Deck offers other desirable features . . . its narrow, vertical-leg stiffening ribs have no angular or horizontal surfaces where troublesome dust might accumulate, and, in addition to its primary use in roof construction, Mahon Steel Deck, due to its basic design, lends itself to a broader range of uses in modern buildings . . . alert designers are finding it ideally suitable for curtain walls, interior dividing walls, partitions, suspended ceilings, and permanent concrete floor forms. See Mahon's Steel Deck Insert and Mahon's Insulated Metal Wall Insert in Sweet's Files, or write for Catalogs B-52-A and B.



SUMP RECESSES and SUMPS

Mahon Roof Sump Recesses for use with Mahon Steel Deck can be furnished to fit any roof pitch. Mahon Cast Iron Sumps can also be furnished for 4", 5", and 6" conductors.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Western Sales Division, Chicago 4, Illinois

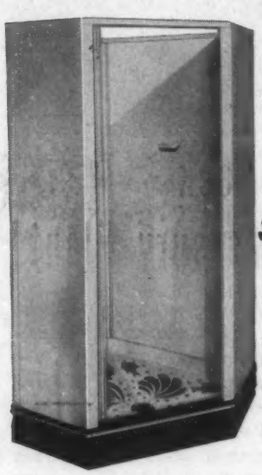
Representatives in all Principal Cities

Manufacturers of Steel Deck for Roofs, Partitions, Ceilings and Floors; Insulated Metal Walls of Aluminum, Stainless or Galvanized Steel; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.

MAHON

LEAK-PROOF
TROUBLE-PROOF
SHOWER BATHS FOR
Homes in every price class

Weisway's Model VR combines perfectly with interior finish materials for handsome built-in installations (as at right). Corner entrance models (below) save additional floor space.



Weisway CABINET SHOWERS

Wherever you plan separate shower baths Weisway is your safe, dependable answer. Weisways are complete, self-contained Cabinet Shower baths, engineered and built to quality standards which assure client's satisfaction, *protect your reputation* . . . Weisway walls are Bonderized, galvanized heavy gauge steel, with two separately baked on coats of enamel — corners sealed in compression tight joints. Vitreous porcelain enamel receptor, acoustically insulated, formed in one piece of heavy enameling iron, has Foot-Grip, No-Slip floor — safe, positively non-absorbent, easy to keep clean and sanitary. Write for catalog.

HENRY WEIS MFG. CO., INC., 303 Weisway Bldg., Elkhart, Indiana

REQUIRED READING

(*Reviews continued from page 46*)

HUNGARIAN ARCHITECTURE

The Work of Architects Olgyay and Olgyay. Introduction by Marcel Breuer and Peter Blake. Reinhold Publishing Corp. (330 W. 42nd St., New York 18, N. Y.), 1952. 11½ by 8½ in. 72 pp., illus. $5.00.

Originally published in 1946 as the first volume of a series on arts and artists in Hungary, this interesting little book presents the architectural work to that date of twins Aladar and Victor Olgyay. The first printing was sold out with the exception of 500 unbound copies which were shipped to Stockholm and then to New York. These are now published in a limited edition, with a cover and jacket designed by George Kepes, a former compatriot of the Olgyays. At this writing, only 420 copies remain. The text is given in both Hungarian and English.

The quantity and quality of work presented is somewhat amazing, considering that the Olgyays were only 36 years old when the book was compiled. These include churches, apartment houses, factories, exposition buildings and government buildings. Most of the commissions were won through architectural competitions. The designs show a good deal of imagination and vigor, with leanings toward the International Style. The buildings also have great interest as a partial record of architectural thought in Hungary after the war and before the Iron Curtain. The Olgyays have been on university faculties in the U. S. since 1947, first at Notre Dame, now at M.I.T.

OLD NEW YORKANA

As You Pass By. By Kenneth Holcomb Dunshee. Hastings House (41 E. 50th St., New York 22, N. Y.), 1952. 8½ by 11½ in. 270 pp. + Appendix, illus. $10.00.

It is quite probable that the average New Yorker, who goes to and from his office on the subway and more likely than not spends his working day several stories above ground, would find it difficult to believe that his city in the 18th and well into the 19th century was a small town that embraced the lower tip of Manhattan — what is now the financial district — and that Midtown was rolling country dotted with streams and ponds. Old New York was not only a small town in size but in character as well. Everyone knew his neighbor's business, all had a strong sense of civic

(*Reviews continued on page 392*)

Above: Brown U., Main Dining Room, Providence, R. I. Architects: Perry, Shaw & Hepburn. Pastel Green Kalistron covers wainscoting, Forest Green Kalistron on service doors.

UNBELIEVABLE DURABILITY

on our walls and doors...

That's the comment frequently heard about *Kalistron* installations. When walls, doors, columns or furniture are covered with Kalistron, they literally defy the wear and tear of "heavy duty" service. Years after installation, the Kalistron is still in excellent condition . . . unmarred, unscratched, with practically no sign of wear.

Kalistron is different because its color is fused to *underside* of clear sheet of wear-resistant Vinylite. Since nothing can touch this under-surface, Kalistron's beauty stays fresh and new-looking.

Kalistron cannot chip, crack or peel; minimizes maintenance costs. Cleans easily with a damp cloth. In 28 standard colors: special colors matched.

SEND COUPON BELOW for sample of Kalistron and nail-file. Test Kalistron yourself . . . prove its unbelievable durability.

Kalistron† ← COLOR FUSED TO UNDERSIDE PLASTIC COVERING MATERIAL

U. S. Plywood Corp., Dept. F-89
55 West 44th St., New York 18

Please send me FREE Nail-File Test (swatch of Kalistron plus actual nail-file) and folder "Facts About Kalistron."

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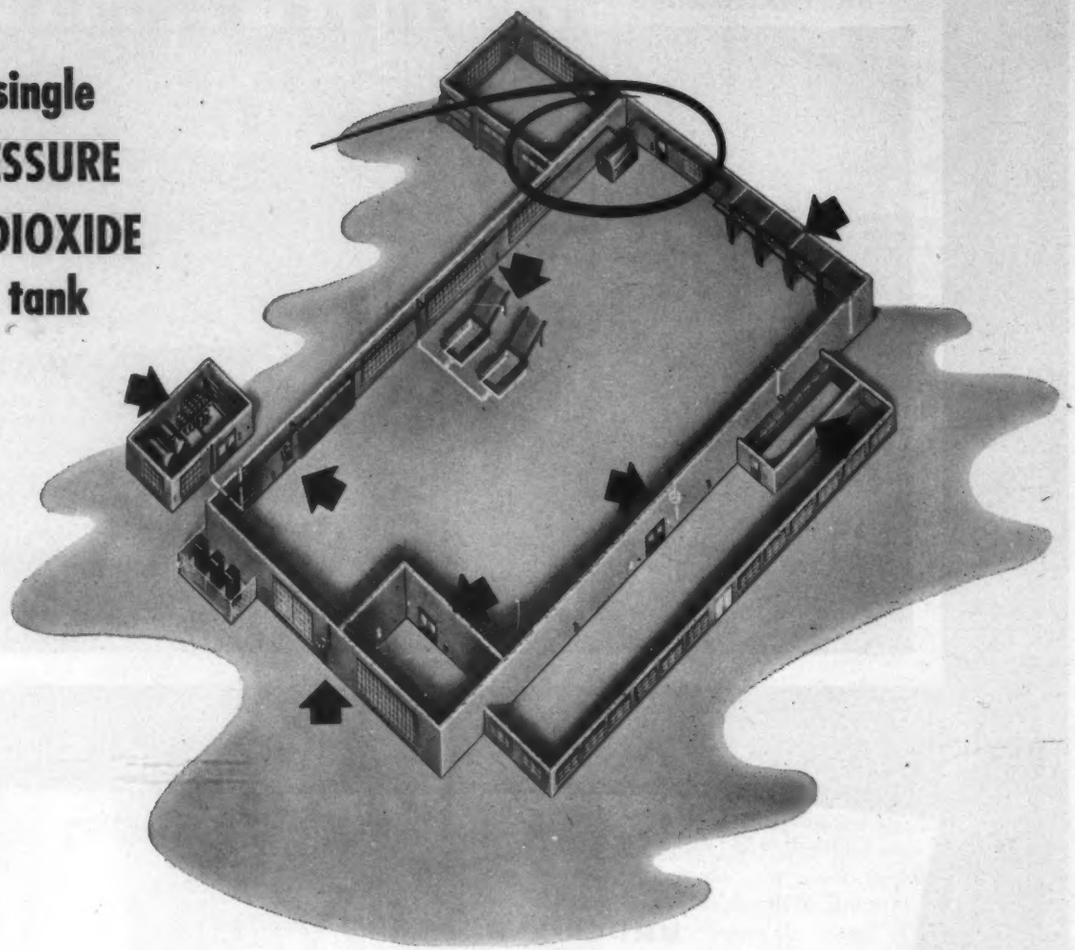
Distributed by: UNITED STATES PLYWOOD CORP., N. Y. C. and by: DECO SALES, 408 Freylinghuysen Ave., Newark, N. J. In Canada: PAUL COLLET & CO., LTD., MONTREAL

†TRADEMARK

Color fused to underside of transparent vinyl sheet . . . backed by flocking

Plant-Wide Fire Protection

from a single LOW PRESSURE CARBON DIOXIDE storage tank



Now, your larger size fire hazards can be protected more efficiently at less cost, thanks to C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems. Simple piping, running from one centrally located storage tank, instantly transports clean, non-damaging, non-conducting carbon dioxide anywhere in the plant area . . . to flammable liquids, electrical equipment, storage spaces, manufacturing processes and record vaults. Fire at any protected location is extinguished in seconds with an absolute minimum of expense and interruption.

Flexibility is the keynote of these new type C-O-TWO Fire Extinguishing Systems . . . the low pressure carbon dioxide storage tanks range in capacities from one to fifty tons . . . discharge facilities can either be manual mechanical, manual electric, automatic mechanical, automatic electric or a combination of these . . . especially installed to fit your particular needs. Future plant expansion is easily and economically provided for by initially installing an oversized low pressure carbon dioxide storage tank and adding the supplementary discharge facilities at a later date.

C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems are built with the same superior design and high quality workmanship that have characterized C-O-TWO High Pressure Carbon Dioxide Type Fire Extinguishing Systems for many years. Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

So, with current expensive delayed replacements, why not let an expert C-O-TWO Fire Protection Engineer help you now in planning fully approved fire protection facilities for your various properties. Complete free information and descriptive literature are yours for the asking. Get the facts!

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TRADE MARK

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Sales and Service in the Principal Cities of United States and Canada

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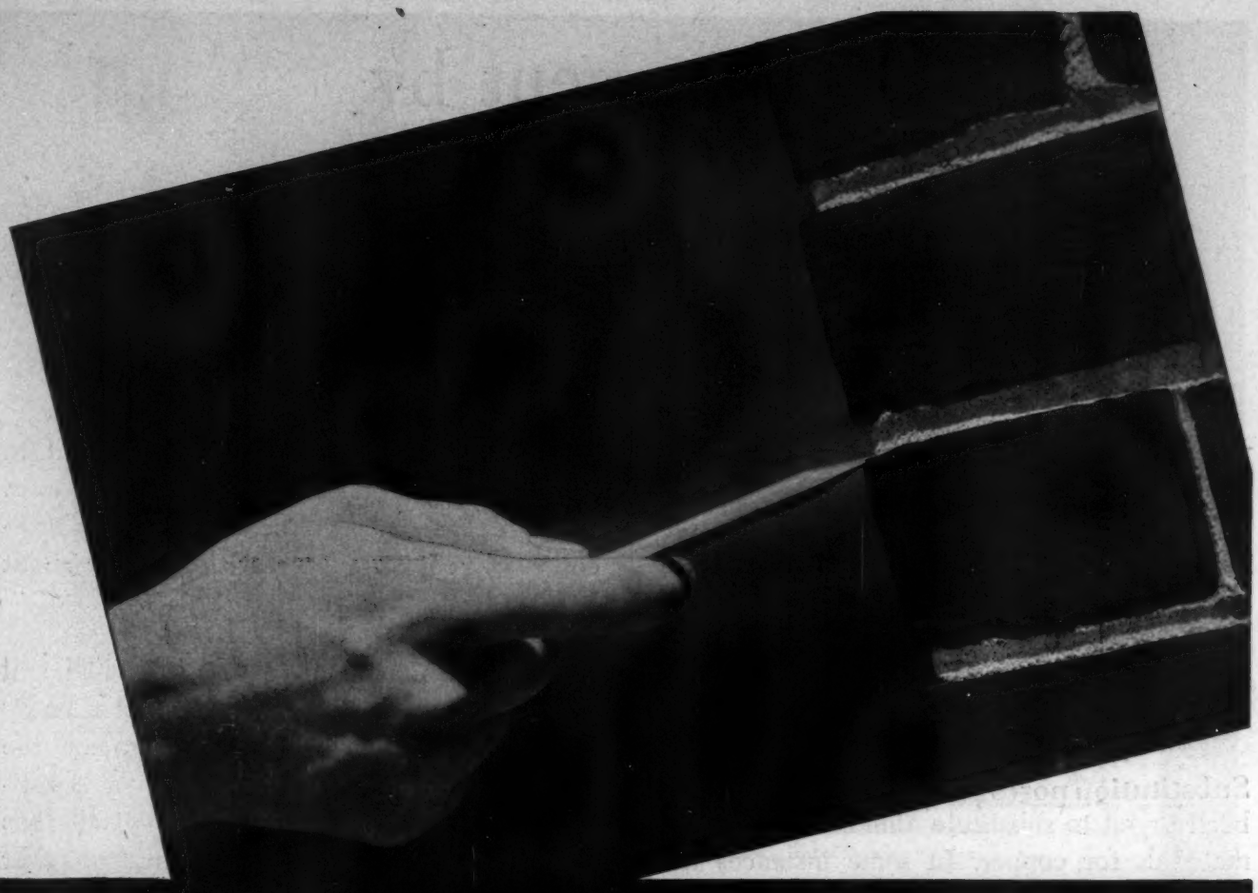
MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers • Built-In Smoke and Heat Fire Detecting Systems

Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems



BRIXMENT

is more durable!

FOR permanent strength and beauty, mortar must be *durable* — must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.

Brixment mortar is *durable*. This durability is due partly to the strength and soundness of Brixment mortar, and partly to the fact that an air-entraining and water-proofing agent is incorporated into Brixment during manufacture. This helps prevent the mortar from becoming saturated — therefore helps protect it from the destructive action of freezing and thawing.

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

A Statement by Anaconda on the Copper Situation

MANY users of copper have vital decisions to make . . . usually in connection with the present defense-induced shortages of copper and aluminum. This statement is an effort to remove the smoke screen surrounding the copper picture . . . to wipe away the confusion caused by too much talk supported by too few facts.

Substitution poses problems – Industry has been urged to substitute aluminum and other materials for copper. In some instances this may be logical and practicable. In many others it is difficult, if not impossible. But – before making *any* long-term decisions that may cost a great deal of money in engineering, new plant facilities or rescheduling of production operations – one should know the facts about the future of copper.

New Anaconda projects – The first major increase in copper production will come from Anaconda when the Greater Butte Project and the new Sulphide Plant at Chuquicamata, Chile, begin operations this spring. By 1953, these two projects should raise present levels of copper production by about 95,000 tons yearly.

Toward the close of 1953, Anaconda's new Yerington project in Nevada is expected to start producing at an annual rate of 30,000 tons. By then, Anaconda will be adding to the present yearly copper supply at the rate of about 125,000 tons.

Other new projects – During 1954-55 still other new projects in the U. S. and friendly foreign countries will further augment the increasing copper supply. All told, it is estimated that by 1955, not less than 450,000 tons of copper could be produced annually – over and above present production levels.

Accordingly, in 1955-56, domestic production plus imports could bring the U. S. copper supply to 1,800,000 tons yearly. This would represent an increase of about 20% over present levels. Based on historical comparisons, and barring a large-scale shooting war, this amount of copper could support a Federal Reserve Board Index of Industrial Production of 270, an increase of 24% over the present, and 45% above the first half of 1950.

• • •

These are the 'things to come' in copper. On the basis of the facts there is no necessity for considering long-range substitution of other materials for the red metal.

52320A

ANACONDA
COPPER MINING COMPANY

The American Brass Company
Anaconda Wire & Cable Company
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Andes Copper Mining Company
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PRODUCERS OF: Copper, Zinc, Lead, Silver, Gold, Cadmium, Vanadium, Superphosphate, Manganese Ore, Ferromanganese.

MANUFACTURERS OF: Electrical Wires and Cables, Copper, Brass, Bronze and other Copper Alloys in such forms as Sheet, Plate, Tube, Pipe, Rod, Wire, Forgings, Stampings, Extrusions, Flexible Metal Hose and Tubing.

Fenestra Door-Frame-Hardware Units in St. Mary's Parish School, Hammond, Ind. *Architect*—Bachman & Bertram, Hammond. *Contractor*—Swenson, Carlson Bldrs. Inc., East Chicago, Indiana.

Look how you save with these Door-Frame-Hardware Units

These doors have clean, modern lines and velvety finish. They're steel so they will never shrink or warp or swell or splinter. They come complete with pre-fitted frames and beautiful hardware. They are *insulated* for quiet performance. They even come individually wrapped as a final quality measure.

Only long years of metal fabricating experience . . . the help of master craftsmen . . . tremendous plant facilities and unique manufacturing methods . . . could give you such Door-Frame-Hardware Units at such savings . . . only Fenestra* is equipped to do it:

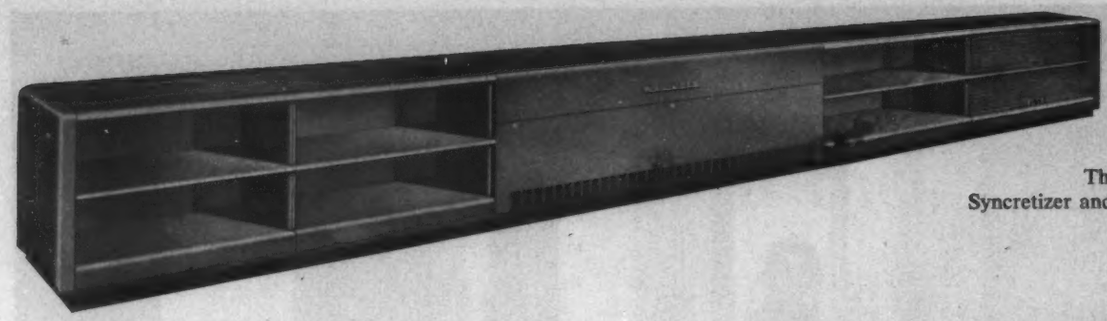
1. **First cost is low because Fenestra's standardized types and sizes permit economical volume production.**
2. **Installation cost is low because the door is complete with pre-fitted frame and hardware ready to fill the opening—no cutting or fitting or mortising or prime-painting!**
3. **Maintenance cost is low because of the door's welded, reinforced construction.**

Compare it, point for point, with *any* door on the market! You can get Fenestra Door-Frame-Hardware Units in a wide variety of sizes . . . in three types ingeniously designed for versatile use. Each door may be hinged right or left, swing-in or swing-out.

Get full details and prices. Call your Fenestra Representative—or write to Detroit Steel Products Company, Dept. AR-3, 2252 East Grand Boulevard, Detroit 11, Michigan. *®

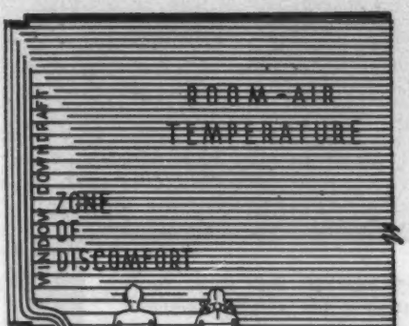
Fenestra HOLLOW METAL DOOR • FRAME • HARDWARE UNITS

save building time, labor, materials and money

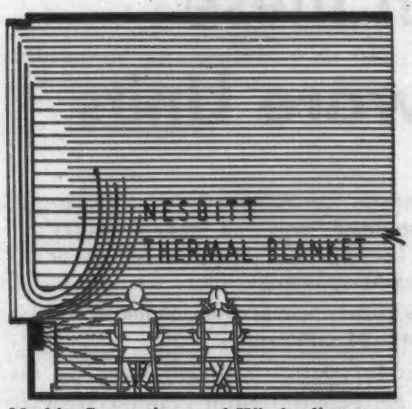


The Nesbitt Package
Syncretizer and Storage Cabinets

The Story of THERMAL



With room-air temperature evenly maintained, downdraft from large cold windows may remain the robber of comfort.



Nesbitt Syncretizer and Wind-o-line temper the downdraft, raise it out of impression range, and improve thermal balance.

THE POSITIVE ANSWER
TO WINDOW DOWNDRAFT

Nesbitt
SYNCRETIZER with WIND-O-LINE

THE STORY of classroom heating and ventilating began many years ago with the need for artificial heat in a one-room schoolhouse. A potbellied stove provided the heat.

With multi-room schools came central heat and hot-air, then steam-radiator distribution. Schoolrooms soon became so hot that the need for regular ventilation was recognized.

NESBITT became a character in the story in 1917 with a schoolroom unit that introduced outdoor air and heated air on the bypass principle.

The story progressed as knowledge increased. The *heating* effect of room occupants, electric lights, and the sun's rays became better known. The need for *cooling* during a large part of the classroom day hastened the development of heating and ventilating units.

Room-air temperature was the recognized index of comfort. But the widely divergent temperatures of the unit ventilator's air stream created conflict—*drafts*. NESBITT brought the air stream under separate control—syncretized, or harmonized, its temperature within draftless limits to that of the room air. Syncretized Air, a new standard of thermal comfort, was created—but air temperature remained its popular index.

Comfort Can Now Be "Seen"

Today thermal comfort has another dimension. Besides *air temperature*, we consider the *radiant temperature differential* of the surrounding walls and surfaces of the classroom. The temperature especially of large windows in cold weather is so far below the room-air temperature that it soaks up the body heat of pupils sitting near it and, to a degree, of all others whose bodies can "see" it (are exposed to it). This explains why the comfort *impression* of some pupils is poor even when the air temperature is good—according to the room thermostat.

The Nesbitt Comfort Control

Within the Nesbitt Syncretizer heating and ventilating unit is the Comfort Control which "sees" and "feels" the outdoor air temperature at all times. This control automatically adjusts the temperature of the unit's continuous air stream so as to impose a protective thermal blanket — warm enough to shield room occupants from the chilling effect of cold windows, and cool enough to prevent overheating of the room air.

Wind-o-line Radiation

For conditions of large glass area and extremely cold outdoor air—which accelerate the problem of window downdraft, Nesbitt provides Wind-o-line Radiation for integration with the Syncretizer. Wind-o-line consists of fin-and-tube radiation in a grilled wall-hung casing to extend from both ends of the ventilating unit for the full length of the windows, at the sill line—and continued, if required, along cold outside walls. (Or it may be had as a component of the storage cabinets in installations of The Nesbitt Package.)

Unlike the attempts to draw off window downdraft as recirculated air—which are easily proved to be ineffective

Like all good stories
this one has *conflict... solution...*
and a *happy ending*

(READING TIME: Four minutes—and worth it.)

In very cold weather large window areas become a "wall-of-ice" in the classroom.

COMFORT in the Schoolroom

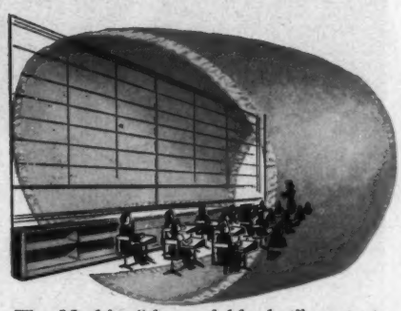
—Nesbitt Wind-o-line solves the problem of *heat loss* logically with a *heat gain* where and when needed. Convected currents of warm air from the grille temper the cold downdraft and divert its flow upward and above the heads of the room occupants. Radiation from the casing or cabinet helps to balance the radiant temperature differential.

"Happily ever after"

For school officials, architects and engineers who have a personal interest in Thermal Comfort the story turns out well: NESBITT SYNCRETIZED AIR—with Wind-o-line Radiation where desired—a *symmetrical* environment in which room-air and surface temperatures are better related to bodily heat exchange for a classroom comfort unequalled by any other system.

This is the story up to now. If it is ever to have a sequel, NESBITT expects to write it!

JOHN J. NESBITT, INC., STATE ROAD & RHAWN STREET, PHILADELPHIA 36, PA.



The Nesbitt "thermal blanket" protects pupils from the cold window downdraft.

A cut-away view of Wind-o-line Radiation, and photograph of a typical installation.

The Nesbitt Syncretizer, Wind-o-line Radiation, and The Nesbitt Package are made and sold by John J. Nesbitt, Inc.; sold by American Blower Corporation.

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Please send me publications describing the Nesbitt Syncretizer and Wind-o-line Radiation.

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City ..... Zone ..... State .....

NATCO Ceramic Glazed VITRITILE

Above are two views showing interior walls of Natco Ceramic Glazed Vitritile in St. Augustine's Parochial School, New Orleans, Louisiana. Architects—Nolan, Norman and Nolan, New Orleans; General Contractors—Pittman Construction Company, New Orleans; Masonry Contractors—Dixie Construction Company, Birmingham, Alabama.

NATCO QUALITY CLAY PRODUCTS SINCE 1889

in the DEEP SOUTH

Good looks, durability, easy maintenance — these are just three of the many reasons why Natco Ceramic Glazed Vitritile was specified for the interior facing walls of St. Augustine's Parochial School in New Orleans. These walls resist hard usage, are easy to clean and keep clean, never need painting or re-decorating. Produced in modular sizes, Natco Ceramic Glazed Vitritile builds a wall and finish at one time — goes up fast — saves construction time and cost. The wide variety of attractive, enduring finishes available enabled the architects to select the color best suited for the purpose from both an appearance and functional standpoint.

Natco Vitritile is made from selected clay — **which is not a vital critical raw material. There is plenty available.** When you build with Natco Vitritile or any other Natco clay product, you are conserving vital raw materials for essential military and civilian use. All Natco Clay Products are readily available — their use does away with long, time-wasting, costly delays.

Send now for your copy of "The Scientific Approach to Color Specification" by the noted color authority, Faber Birren. It tells what the right colors are, what the right colors will do for schools and all other types of structures. It is yours for the asking.

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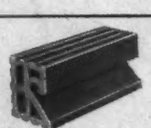
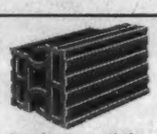


Raggle Blocks
Prevent Water Seepage
4" x 5½" x 12" Nom. Size



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12" long Varying Heights

Ceramic, Clear
Glazed Vitritile 5½" x 12"
Nom. Face Size

Ceramic Glazed Vitritile
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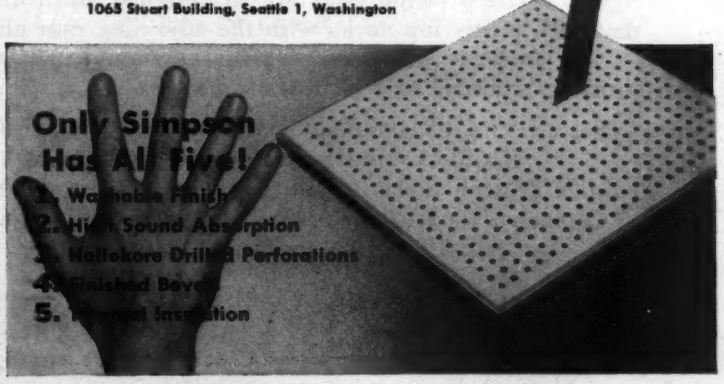


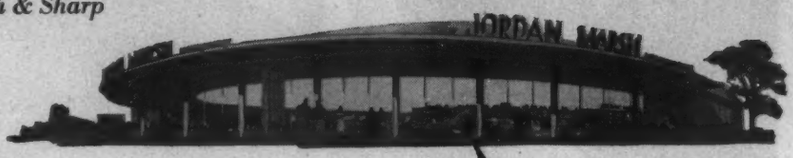
Architect Giná *of Ketchum, Giná & Sharp*

says:

"The unique design of this modern shopping center offered special roofing problems...

we met them all with

Truscon Ferrobord® Roofdeck!"



The new Jordan Marsh Company shopping center is a modern architectural masterpiece . . . with a roofing installation of exceptional efficiency. Here, Truscon Ferrobord Roofdeck supplied a lightweight roof of high structural strength . . . and one that permitted easy conformation to the distinctive building design.

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See SWEET's for complete details on Truscon Ferrobord Roofdeck; and write for detailed literature on all other Truscon Steel Building Products. Truscon Steel Company, 1062 Albert Street, Youngstown 1, Ohio. Subsidiary of Republic Steel Corporation.

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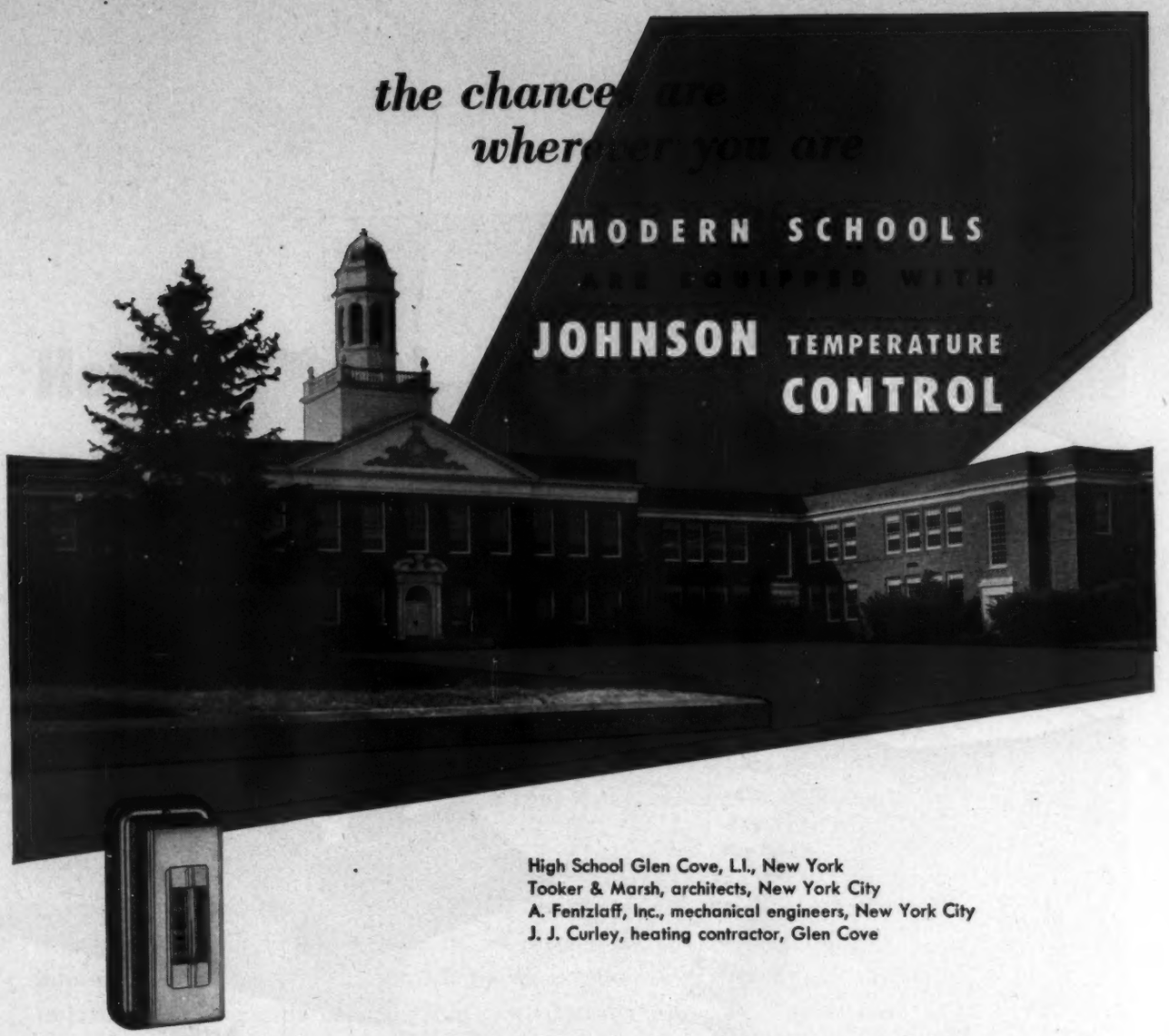

High School Glen Cove, L.I., New York
Tooker & Marsh, architects, New York City
A. Fentzlaff, Inc., mechanical engineers, New York City
J. J. Curley, heating contractor, Glen Cove

The high school at Glen Cove, on Long Island, serves as another example of the adaptability of Johnson Automatic Temperature Control. This building is heated by convectors. Classroom ventilation is provided by unit ventilators, while three central plant ventilating systems take care of the requirements in the auditorium and in two gymnasiums.

There are 67 Johnson room thermostats, operating Johnson valves on 111 convectors and Johnson damper operators and valves in 47 unit ventilator cabinets. The central ventilating systems are controlled by Johnson thermostats, of proper types for the service required, operating Johnson valves and dampers at the heating coils.

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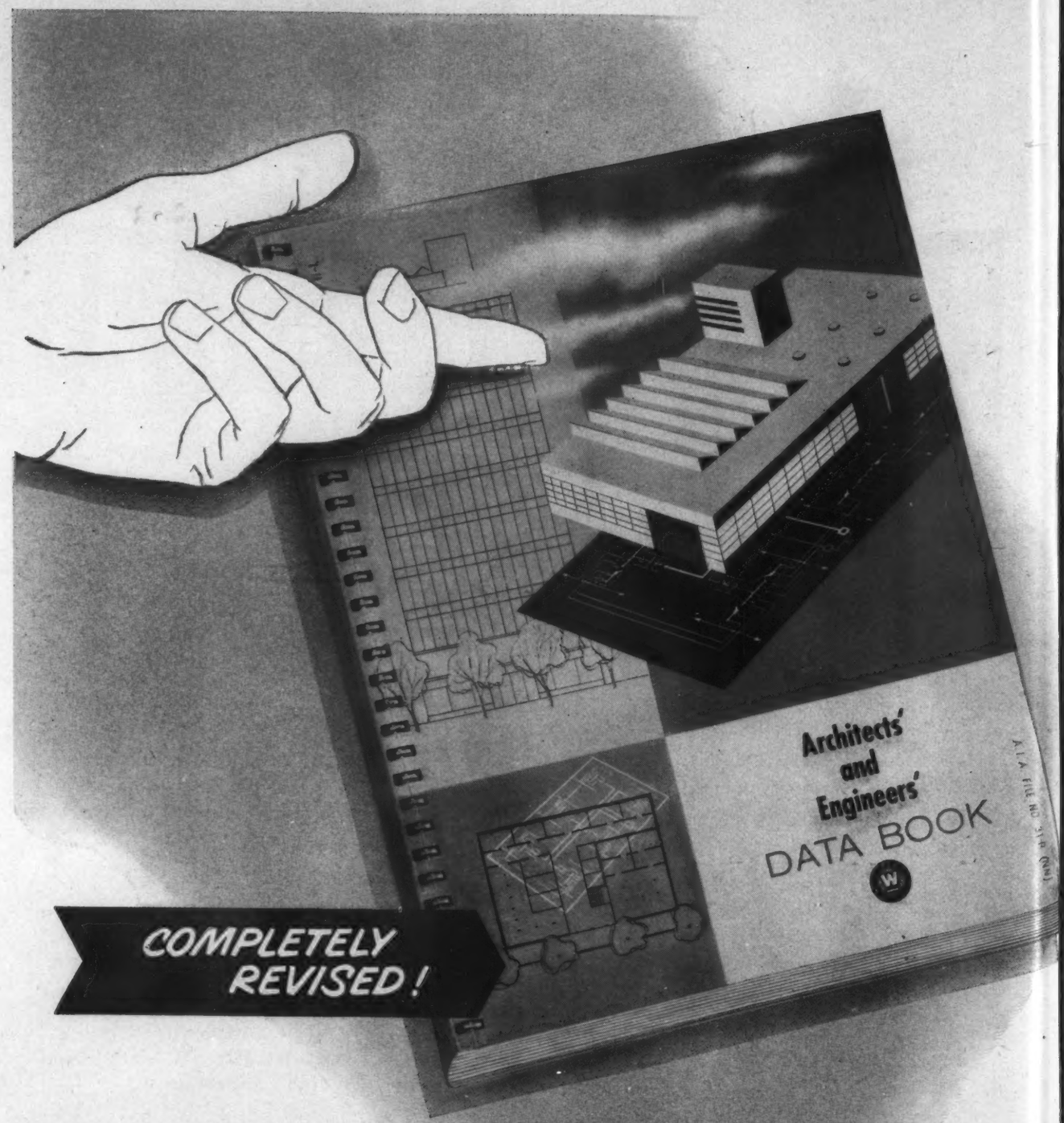
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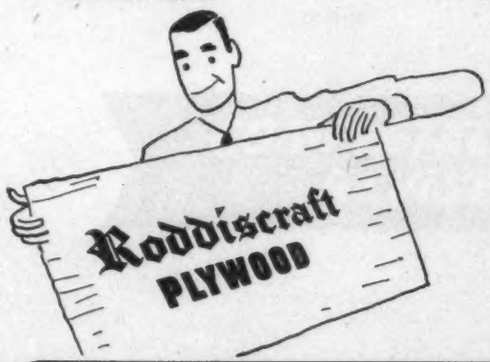

G-E Textolite is available both in 1/16" thick sheet stock and factory-bonded to Roddiscraft Plywood in accordance with your specifications. Complete information, including free literature, is available from your Roddiscraft warehouse. A Roddiscraft representative will be glad to discuss Textolite applications with you.

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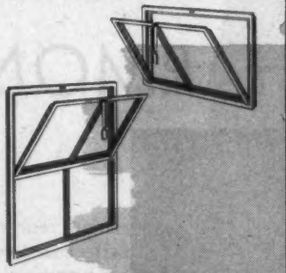
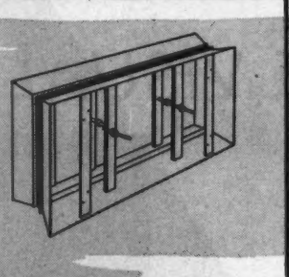
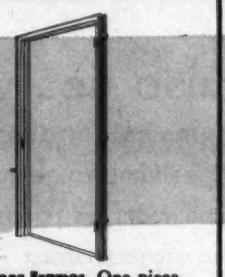


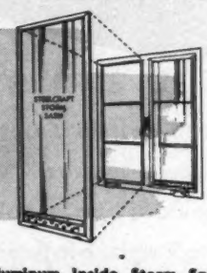
Steel Basement and Utility Windows. Armless ventilators are easily removed.



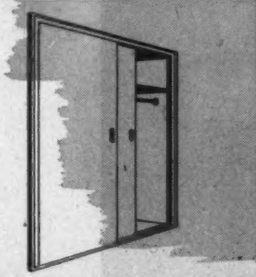
Basement Sash Form. Easy to use, saves time—reusable.



Steel Door Frames. One piece, welded construction. Reinforced mitered corners won't open.



Aluminum Inside Storm Sash fit all metal casement windows. No measuring . . . standard sizes . . . easy to install.



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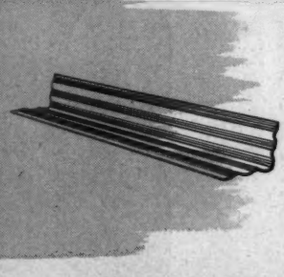

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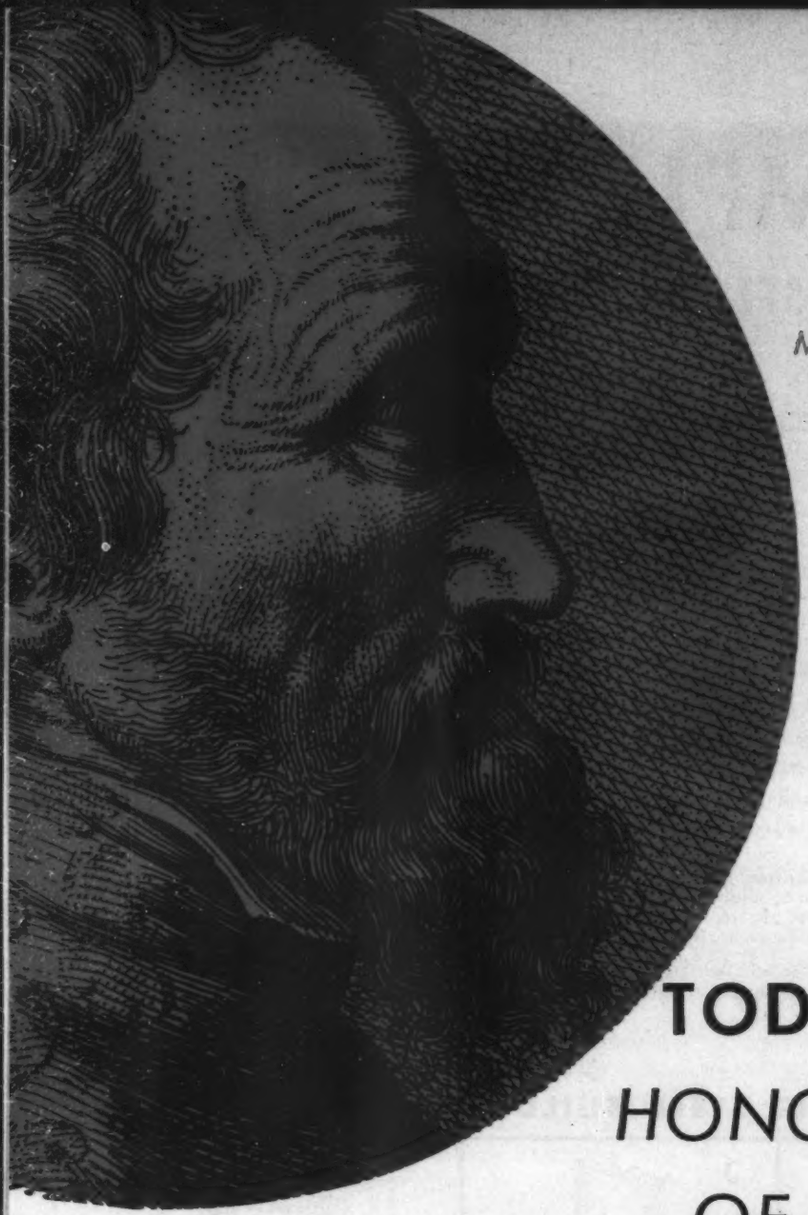

Michelangelo Buonarroti said,
"When a plan has diverse parts,
all those which are alike in quality
and quantity must be treated
according to one model and one style."

TODAY, *ARCHITECTS HONOR THIS CONCEPT OF VISUAL HARMONY.....*

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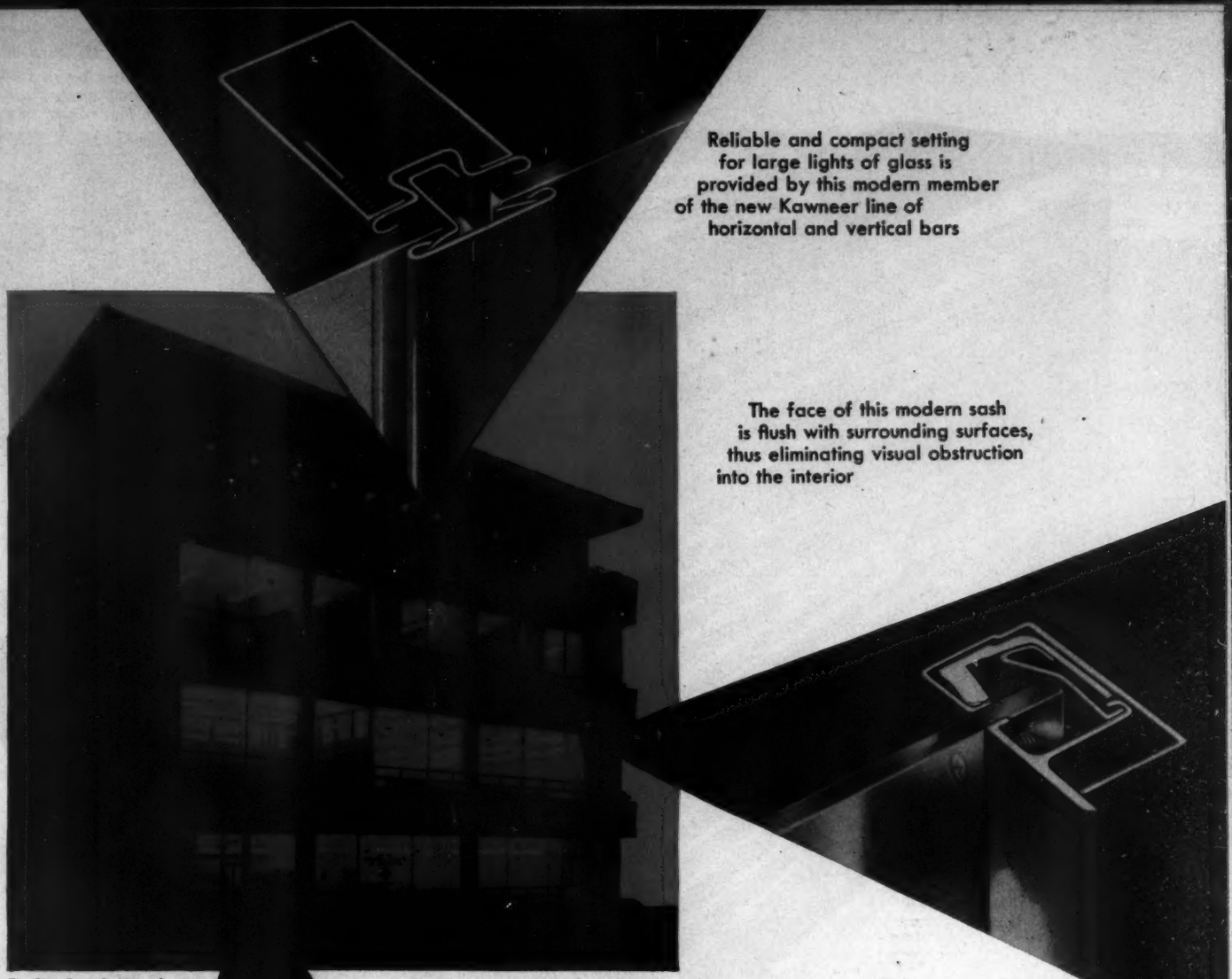
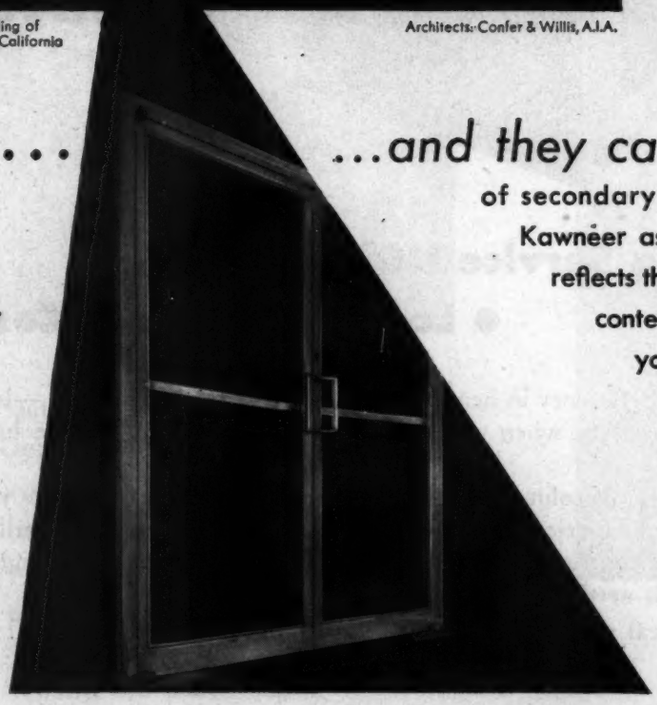


Reliable and compact setting for large lights of glass is provided by this modern member of the new Kawneer line of horizontal and vertical bars

The face of this modern sash is flush with surrounding surfaces, thus eliminating visual obstruction into the interior

The Blue Cross Building of Hospital Service of California Oakland, California

Architects: Confer & Willis, A.I.A.



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UNTER TOPS covered with beautiful G-E Textolite plastics surfacing are easily eaned with just a damp cloth. This tough, wear-resistant plastics topping is also eal for sink and counter tops in school kitchens.

orkroom, Midvale School, Madison, Wis. Contractor: J. P. Cullen & Son, Janesville, Wis.

DESK TOPS covered with G-E Textolite plastics surfacing are extremely durable —keep replacement costs *down*. Special patterns for desk-top use have been designed to minimize eyestrain and improve illumination in classrooms.

Classroom, South Lawn School, Coshocton, Ohio

To put "class" in classrooms...

specify G-E TEXTOLITE* SURFACING

E TOPS in playrooms and workshops, covered with colorful G-E Textolite plastics cing, remain unharmed by ink, clay, paints and other hazards . . . make school- s brighter, pleasanter places for both teachers and pupils.

m, Martin Avenue School, Bellmore, N. Y.

ELEVATOR INTERIORS represent an interesting use of G-E Textolite plastics surfacing for *vertical* applications. It gives a modern "new look" to old installations . . . can be used as decorative wainscoting or wall paneling.

Elevator, Pratt Institute, Brooklyn, N. Y.

Schools are only one type of construction for which you can specify General Electric Textolite plastics surfacing. This beautiful, durable plastics material is ideal for table tops, counter tops and wainscoting in restaurants, hospitals, housing developments—anyplace where good looks and hard wear must go together. G-E Textolite surfacing wears like iron, cleans like glass . . . and the beauty lasts.

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Longspan Joists enable you to plan unobstructed floor areas with spans up to 64 ft or more. Machinery, fixtures, stockpiles and partitions can be arranged with less interference from columns.

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Bethlehem Longspans are good joists to remember when you plan your next industrial building. Our nearest sales office will be glad to furnish complete information. Or write to us at Bethlehem, Pa.

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On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation
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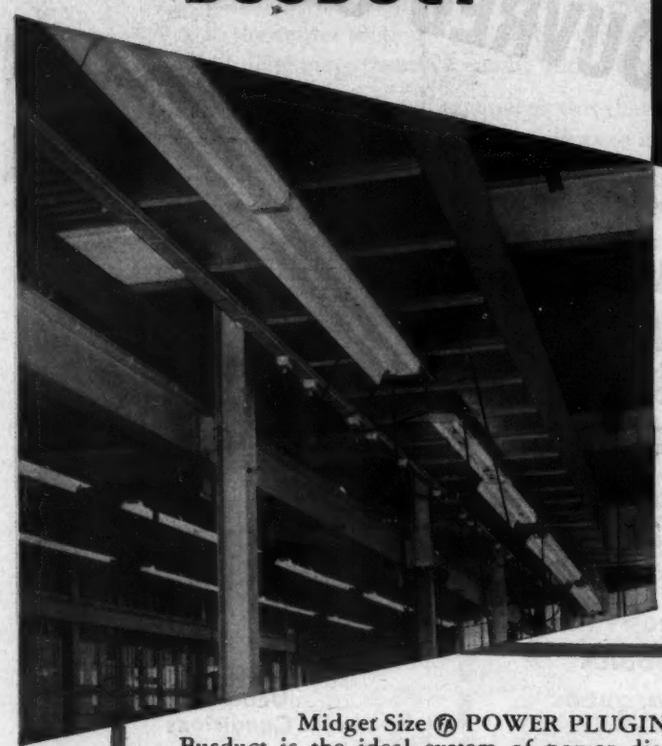
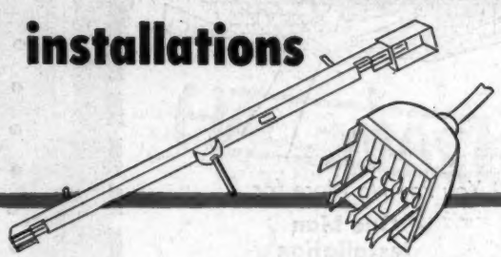
BETHLEHEM LONGSPAN JOISTS

MIDGET SIZE

FA POWER PLUGIN BUSDUCT



provides "Plug in and Go" Power for smaller installations



Midget Size FA POWER PLUGIN Busduct is the ideal system of power distribution for small machines and other similar plant equipment.

Underwriters' Laboratories approved, this modern system of power distribution provides 60 amp., feeder capacity for 2, 3 or 4 wire systems for ½ to 3 H.P., 240 volt motors, AC or DC with conventional type fuses and 7½ H.P. maximum for motors with dual element fuses.

The 2 and 3 conductor types provide 220 volts single phase or three phase power to motors, while the 4 conductor type provides single or three phase power for motors and 120 volts for machine illumination or small pump motors on return lubrication systems.

Midget Size FA POWER PLUGIN Busduct is only 3½ inches wide and 2 inches deep in size. It is available in five and ten foot sections with plugin outlets every twenty inches thus permitting machines to be moved in and out of production lines without slowing down or delaying operations. Special lengths and closer spacing of outlets are also available for application on production benches and equipment.

Contact your nearest FA representative, listed in Sweet's, or write for Bulletin No. 704, for further information on this economical, flexible system of power distribution.

Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

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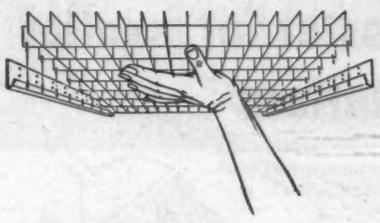
NEO-RAY LOUVRED CEILINGS



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- ***Banks***
- ***Stores***
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- ***Showrooms***
- ***Lobbies***
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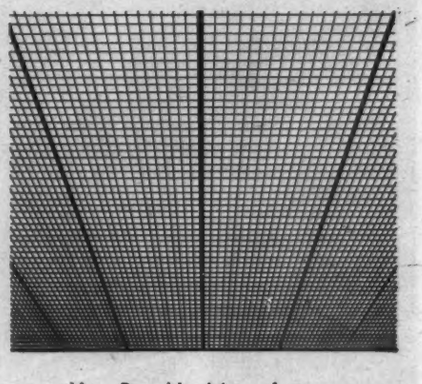

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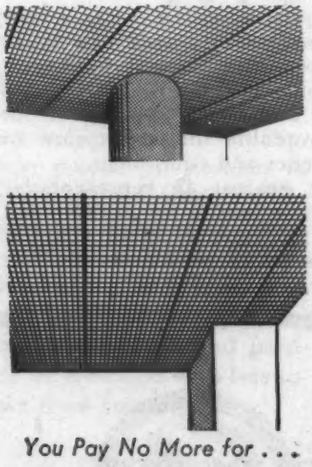
Perfect Alignment Under All Conditions



You Pay No More for . . .

the Versatile Adaptability to Every Type of Ceiling

Yes — you pay no more for the many patented and exclusive features that make Neo-Ray the outstanding louvred ceiling. Every day more and more architects are discovering the importance of Neo-Ray's patented mating slots and tracks that assure perfect alignment . . . the Neo-Ray stock sections that can be cut on the job to meet any conditions . . . the simple labor-saving design that means low cost installation. Before you write another specification — discover the many "extras" in Neo-Ray Louvred Ceilings.

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Gives complete engineering data and lighting tables for each item in our complete line of fluorescent, slimline, and incadescent fixtures.

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New simplified spot lamp tables for computing light intensities in show windows and all highlighted areas.

See our catalogue in Sweet's Architectural File for 1952, sec. 31a/NE

See Us at Booths 457 and 458, 4th International Lighting Exposition, Cleveland

NEO-RAY PRODUCTS, INC.

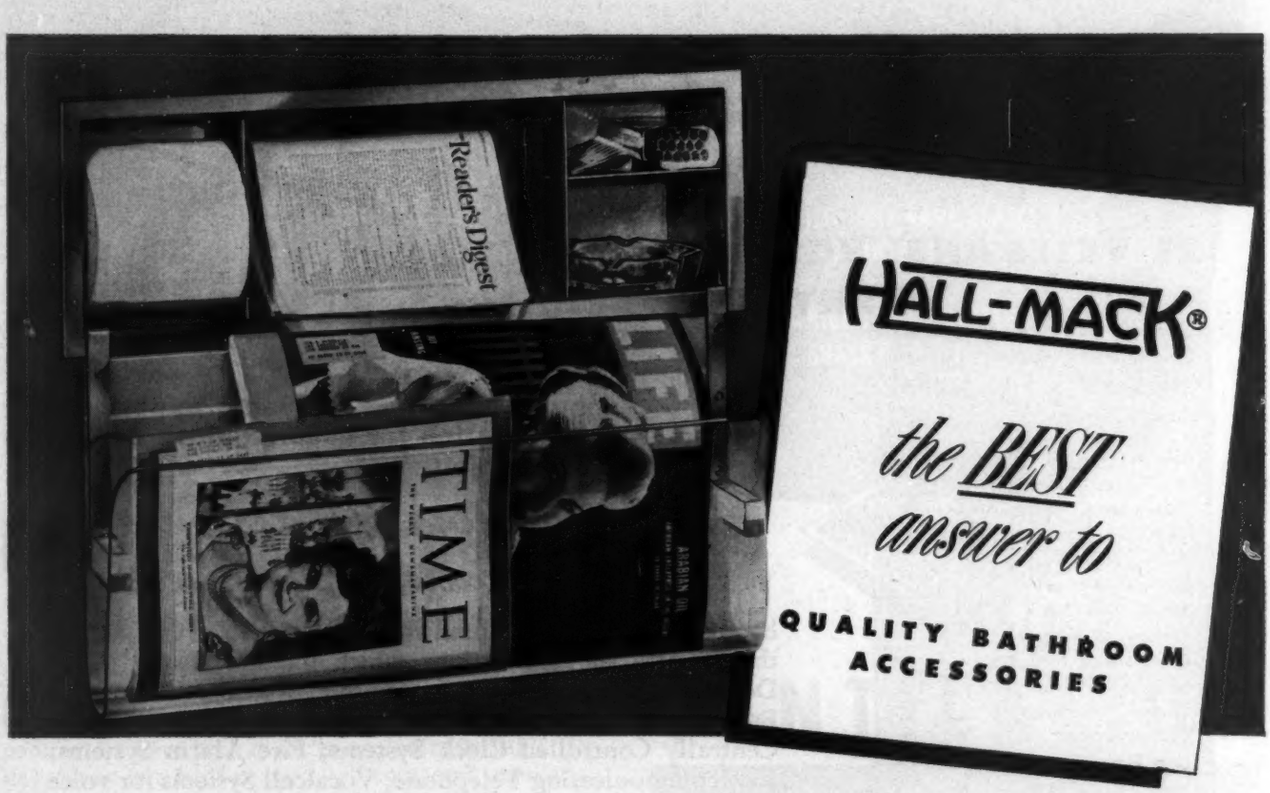
315 East 22nd Street • New York 10, N. Y.

CONVENIENCE

CONVENIENCE has a definite place in today's bathroom design—and this exclusive Hall-Mack Relaxation Unit is every man's answer to what belongs in a bathroom. In addition to the usual paper holder, it offers handy compartments for cigarettes and an ash tray—for a book or a small magazine in the center section—and for the utmost in convenience and extra luxury—a Lucite magazine rack can be added for larger magazines and newspapers.

It's convenience quality such as this that has given Hall-Mack a reputation as the best answer to quality bathroom accessories.

In Hall-Mack's complete selection of bathroom accessories, you'll find other unique special accessories like this—made to add the final touch of convenience and appearance to any bathroom.



● You build a bathroom for a lifetime of use. Make sure you build with Hall-Mack's lasting quality and convenience. Within four popular lines—Crystalcrome, Coronado, Tempo and China-Vogue—you can select Hall-Mack accessories for every bathroom style and budget.

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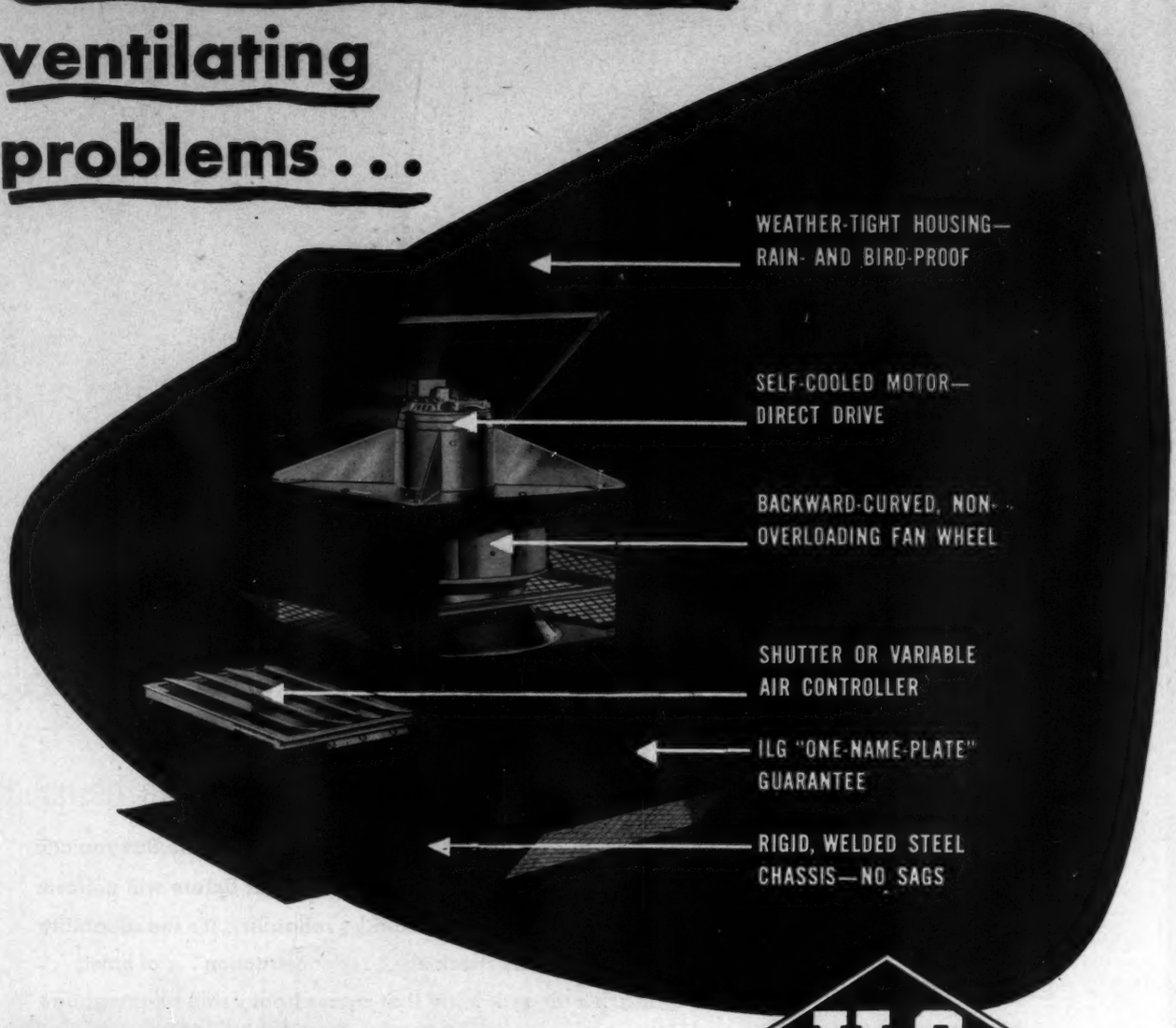

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New ILG "PRV" power roof ventilators . . .

Acceptance of this new product has far exceeded our most optimistic expectations. Architects, engineers, and contractors have been quick to recognize its value. Today, many hundreds of these self-contained ventilating units can be seen on roofs of new hospitals, schools, armed service bases, and industrial buildings throughout the nation. If *you* haven't heard the complete story on these "PRV" units, call in your nearby ILG representative today. Have him show you why you get positive, controlled ventilation, regardless of wind or weather conditions, through vertical flues or duct systems. Have him explain the numerous extra features you get in this high quality product that doesn't require one inch of valuable indoor wall or floor space. With Branch Offices in over fifty principal cities, your experienced ILG engineer is as close as your telephone. Phone him today (consult classified directory), or send coupon.

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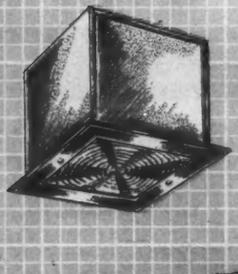
. . . and usually they're unpredictable. But you can always predict how a Gruber fixture will perform . . . because every unit is backed by reliability. It's the reliability that comes from constant checking . . . of construction . . . of finish . . . of wiring. It's the reliability that comes from using heavy gauge metal . . . the finest electrical components . . . phosphortized undercoat . . . high baked finish. And you'll realize the importance of this reliability when you find how low maintenance costs will be when Gruber fixtures are used. On your next job . . . specify GRUBER with confidence . . . and be sure.



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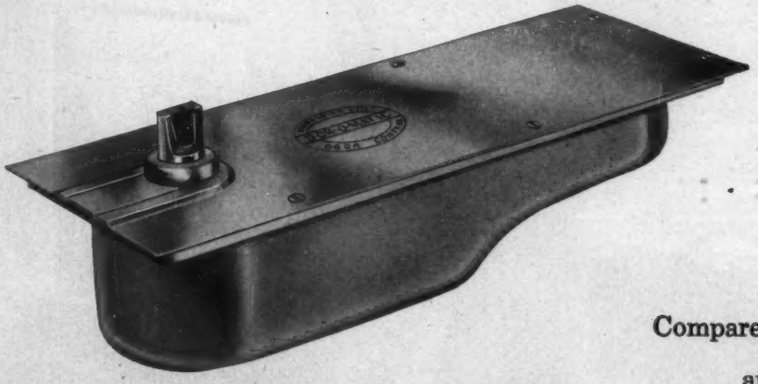
dependable, trouble-free **DOR-O-MATIC**

CONCEALED DOOR CONTROL

specified again...

El Camino Junior College Student Union Building, Lawndale, Calif. • Architects: Marsh Smith & Powell, Los Angeles • General Contractor: Harvey A. Nichols, Los Angeles • Hardware Dealer: Montgomery Hardware Co., Los Angeles



Only DOR-O-MATIC Concealed Door Control Provides All These Service Advantages:

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10. Easy To Install

All these features combined for lower total cost and available in sixteen models to meet all types of concealed door control.

Before specifying any door control on your next school, store, hotel, hospital, or commercial building job, compare DOR-O-MATIC with any other type that you have ever used. Compare them point by point—feature by feature, and you will find DOR-O-MATIC provides positive, complete door control with better service life under all operating conditions. DOR-O-MATIC is unique in its adaptability to all modern door designs. Write for complete details and specifications.

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Andersen Gliding Windows in Short Hills, N. J., home, Dalzell & Dalzell, architects

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ANDERSEN *Windowalls**

NATURE'S BEAUTY and the splash of sunlight blend perfectly with any style of architecture. Here a WINDOWALL of Andersen Gliding Window Units adds these ingredients to a livingroom's charm. It adds more. Fresh air when needed; and a wall between the owner's comfort and unpleasant weather. For WINDOWALLS are not only beautiful, they are also efficient both as windows and as walls.

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FAMOUS FOR COMPLETE WOOD WINDOW UNITS

Write for Detail Catalog or Tracing File; or see Sweet's files for specification data. WINDOWALLS *are sold by millwork dealers.*

Overly design keeps roof *flexible*

Freedom to expand and contract with changing temperatures is one of the features of this Overly-Goodwin Batten Type aluminum roof on the field house of The Lawrenceville School, Lawrenceville, New Jersey. The patented joint construction is flexible, yet permanently water tight. Field house dimensions are 346' x 197'. ARCHITECTS: Walter T. Karcher & Livingston Smith, Philadelphia, Pennsylvania.

CONTRACTOR: The White Construction Company, New York City. Roof, gutters, and octagon conductors are aluminum— fabricated and erected by Overly. For details on Overly architectural sheet metal products, send for Catalog 8-B.

OVERLY MANUFACTURING COMPANY
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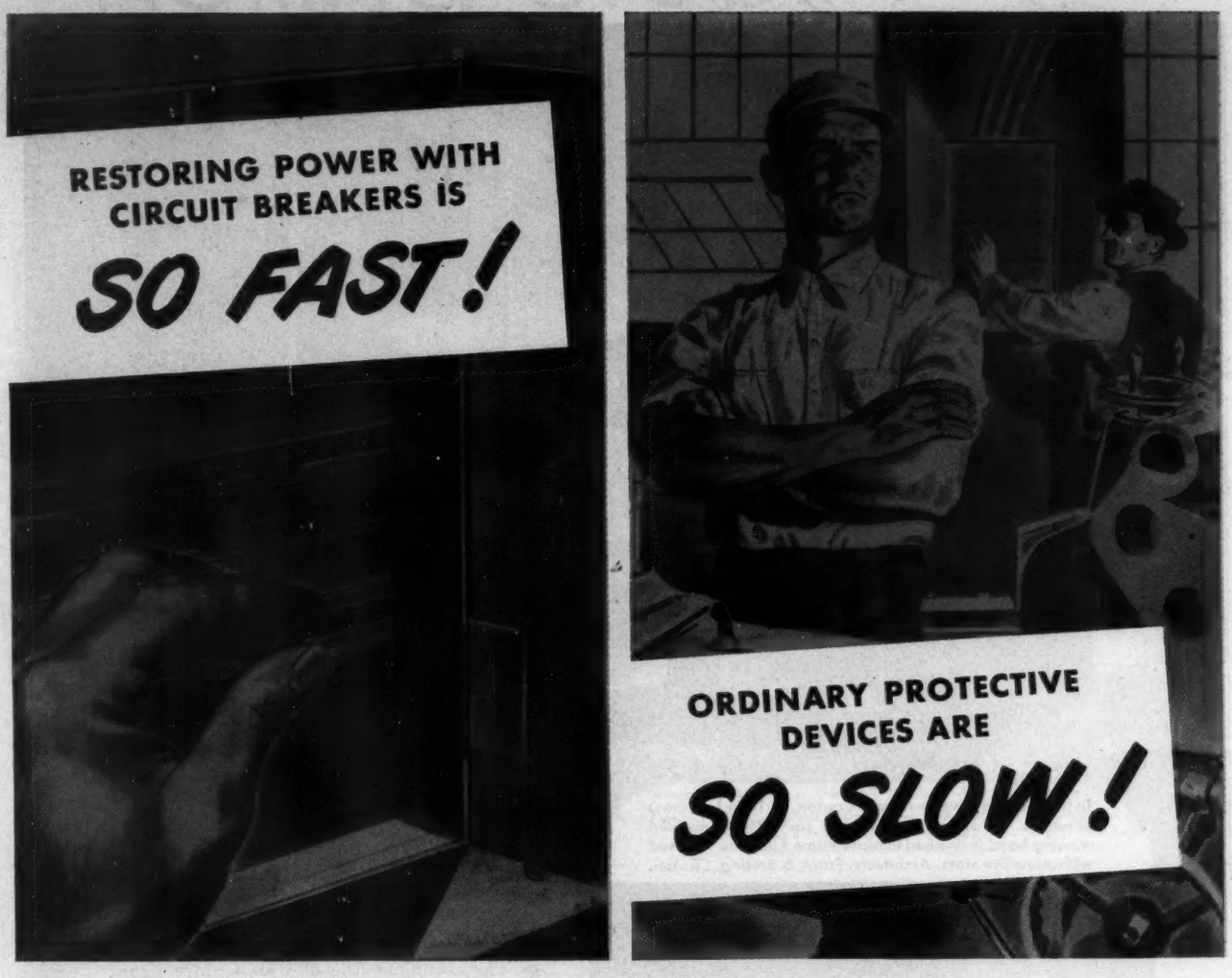
Save with SAFER... SURER AB BREAKERS



The blow that often hurts worse than a power outage is inability to get back into production. With one investment you can have reliable circuit control and protection, and help in eliminating road blocks to capacity production—with Westinghouse Circuit Breakers.

On short circuits, Westinghouse Breakers trip instantly, yet provide a time lag on temporary, harmless overloads to minimize circuit interruptions. As soon as trouble is cleared on the line, flip the handle back to "on" position and power is restored—just as quick as that. No need to chase fuses, no costly maintenance time to install them. In addition, Westinghouse Breakers are tamperproof—provide you dependable protection for years and years without attention.

Westinghouse has a complete line of Circuit Breakers for industrial and commercial applications in ratings from 5 through 600 amperes. For complete information, call your nearest Westinghouse office, or write for Bulletin D. B. 29-060, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-30052

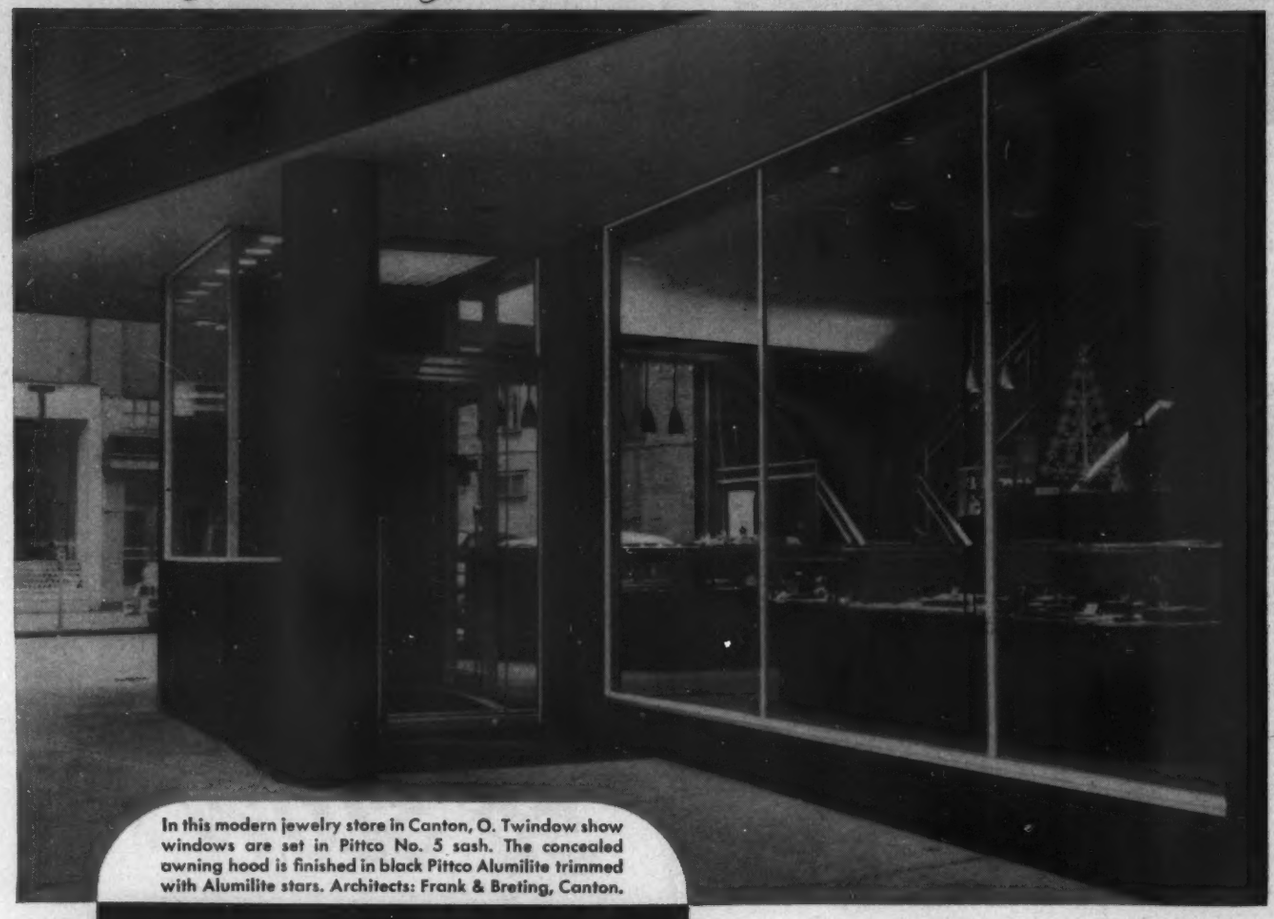
DESIGN TESTED AND VERIFIED IN THE Westinghouse HIGH POWER LABORATORY

YOU CAN BE SURE... IF IT'S Westinghouse

AB CIRCUIT BREAKERS

THE COMPLETE LINE

Quality settings for insulated windows



In this modern jewelry store in Canton, O. Twindow show windows are set in Pittco No. 5 sash. The concealed awning hood is finished in black Pittco Alumilite trimmed with Alumilite stars. Architects: Frank & Breting, Canton.

Pittco No. 5 sash, specially designed for use with Twindow.

● The complete line of Pittco Store Front Metal includes bars and sashes specifically designed for use with Twindow, Pittsburgh's window with built-in insulation.

Twindow settings provide the same strength, sharp profiles, and rich, smooth finish displayed by other members of the Pittco line. They permit use of the same easy, time-saving installation practices.

You'll find that Pittco Metal gives you the widest latitude in store front design. See your Pittco representative for complete information.

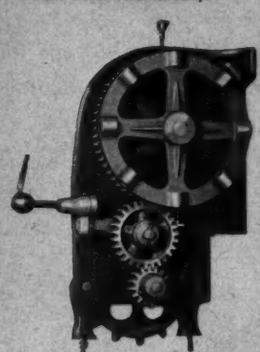
PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

Rolling Steel DOORS

MAHON STANDARD POWER OPERATOR 920-P

Mahon Release Device and Governor on the Automatic Closing Mechanism of a Mahon Rolling Steel Fire Door. Fusible links release the mechanism in case of fire and the door closes automatically.



Mahon Release Device for Chain-Gear Operator on Mahon Mechanically Operated Rolling Steel Fire Doors. Fusing of the Fusible Link, which releases the Automatic Closing Mechanism, simultaneously disengages the Chain-Gear Operator.

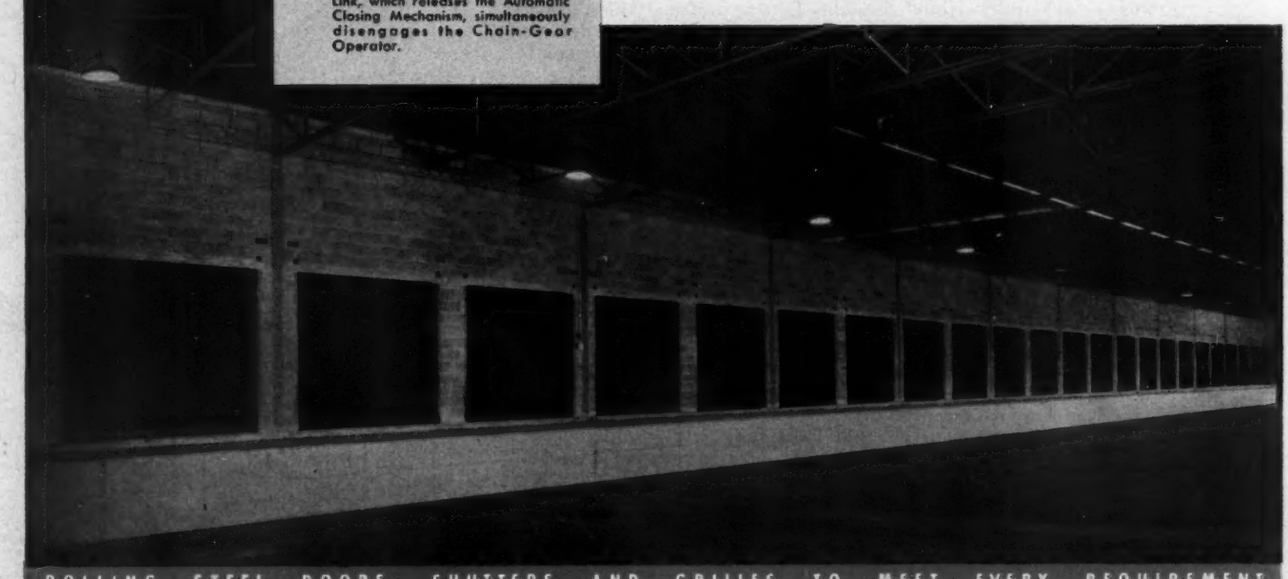
Manually, Mechanically, or Power Operated

In the openings between an enclosed loading dock and a large food warehouse illustrated below, twenty-four Mahon automatic closing, Underwriters' Labeled Rolling Steel Fire Doors were installed to protect the contents of the building. These doors are manually operated in normal service, but are equipped with fusible links and an automatic closing device which quickly closes the door in case of fire. Mahon Underwriters' Labeled Rolling Steel Fire Doors, like all other Mahon Rolling Steel Doors, occupy no usable space inside or outside the opening . . . they are built to give a lifetime of trouble-free service . . . for instance, the galvanized steel for the interlocking curtain slats of Mahon Rolling Steel Doors is chemically cleaned, phosphated, and chromated to produce paint bond, and the protective enamel coating is baked on at 350° F. prior to roll-forming. This is just one of the extra value features of Mahon Rolling Steel Doors—you will find others if you check specifications carefully. See Sweet's Files for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Twenty-Four Mahon Automatic Underwriters' Labeled Doors installed in a new Warehouse for Food Warehouses, Inc., Detroit, Mich. Two Mahon Power Operated Rolling Steel Doors 17'-0" x 22'-0" are installed in railroad openings in this same building. Louis G. Redstone, Architect, Campbell Construction Company, General Contractors.

MAHON

Task Matched industrial lighting plus "Springlox"...

only BENJAMIN "Magna-Flo" systems bring you *Both!*

No other T12 Slimline System is so COMPLETE! No other lighting system has "Springlox" Lampholders! Only Benjamin "Magna-Flo" Systems bring you BOTH these advantages, so important to BETTER SEEING and QUICKER MAINTENANCE.

FREE DATA BULLETIN AD5705 brings you complete "Magna-Flo" specifications and details of the hundreds of "Magna-Flo" combinations which make possible lighting to MATCH ANY INDUSTRIAL SEEING TASK! Benjamin Electric Mfg. Co., Dept. Q-1, Des Plaines, Illinois.

for BETTER SEEING...

1 Task Matched Lighting Installations

You get BETTER SEEING, because the "Magna-Flo" Line is so complete that you can always specify units which are MATCHED TO THE SEEING TASK! No need to settle for "second choices" or substitute sizes and types! Just three channels and four reflectors form the basis for HUNDREDS OF COMBINATIONS! Assembly lines or drafting tables, inspection or production lighting, lighting for the discernment of fine detail or adequate light for larger work . . . whatever the seeing task, it can be MATCHED with "MAGNA-FLO".

48", 72" and 96" CHANNELS for T12 LAMPS and REFLECTORS } with 2 or 3-lamp "Springlox"... in INDIVIDUAL UNITS or CONTINUOUS LINES... with LOUVERS, COVERS or SHIELDS... Suspended by CHAIN, CONDUIT, CABLE, SINGLE-ROD, CEILING or TWIN-ROD.

for QUICKER MAINTENANCE...

2 "Springlox" Lampholders

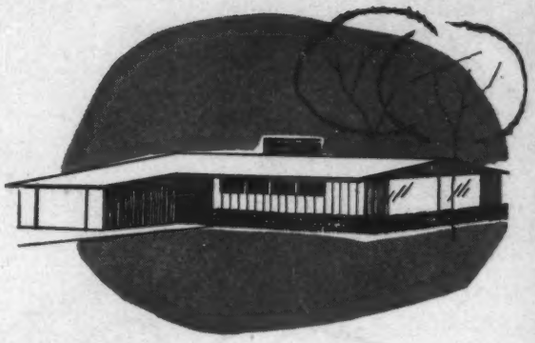
There's nothing like this rugged, all-metal, patented Benjamin fluorescent lampholder for "quick-in, quick-out" lamp servicing that speeds up relamping and improves reflector maintenance. "Springlox" is one of the important exclusive advantages that make "Magna-Flo" Systems outstanding. It is a "MAGNA-FLO" PLUS that COSTS NOTHING EXTRA! In addition to its maintenance speed-up features, "Springlox" assures (1) COMPLETE SAFETY from lamps dropping out or being loosened by vibration, because it is self-adjusting for slight differences in lamp lengths; and (2) NEVER-FAILING SAFETY CONTACT because of a built-in "easy-make, easy-break" circuit switch.

DIM
MOBILIZE
4th
LIGHTING
EXPOSITION
and CONFERENCE
CLEVELAND

Today's house

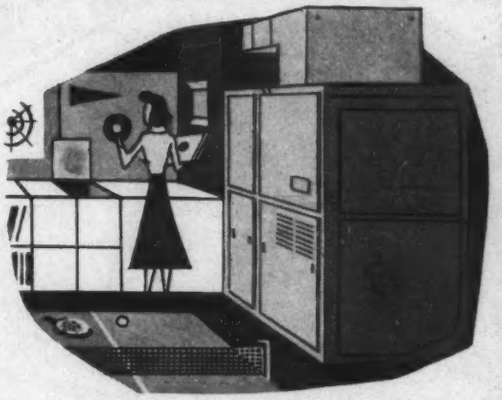
The Weathermaker Home is built around 4-season Carrier Weathermaker Air Conditioning.

Why is it such a good idea today?



Today's house needs space

Space today costs three times as much as it cost about ten years ago. So it's important to use space wisely . . . and in the Carrier Weathermaker Home you can. Windows need not be planned for ventilation. They can be fixed or grouped. So the floor plan can be a simple rectangle.



Today's house needs comfort

Today's house is smaller. It has more window area. Its appliances create more heat. So it's bound to be hotter in the summer. In the Weathermaker Home, Carrier Weathermaker Air Conditioning delivers more comfort for less money than extra space would cost.

Today's house needs freedom

Living today is a complicated affair. And we need all the help our houses can give us. The Weathermaker Home should be cleaner, quieter, easier to run (the weather you want is at your finger tips) and more fun to live in. There's increasing evidence that it's the kind of house people want today. We'd like to work with you in giving it to them.

CARRIER CORPORATION
312 South Geddes Street, Syracuse 1, N. Y.

Please send me "How to Have a Carrier Weathermaker Home."

*Name*_____

*Street*_____

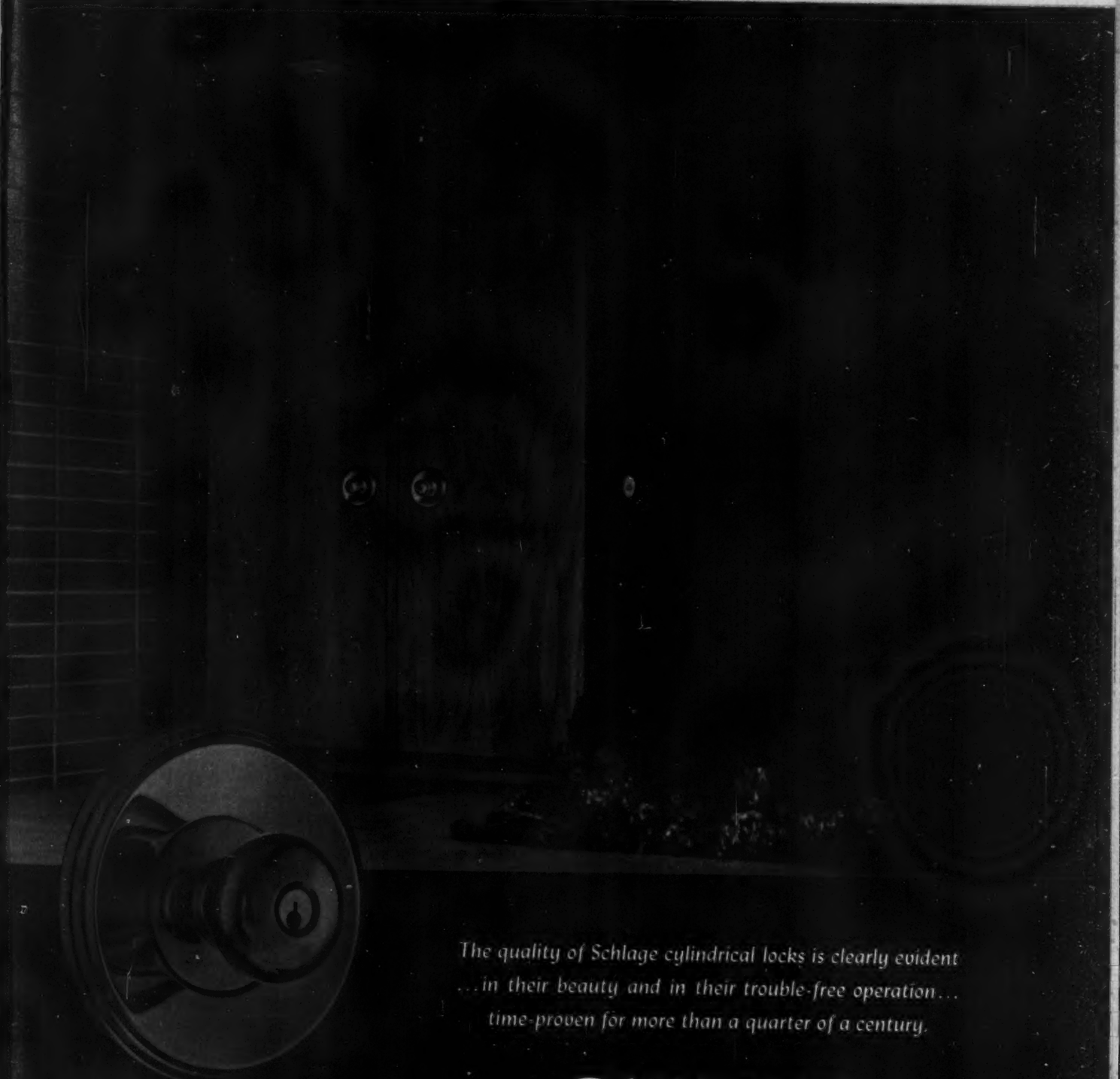
*City*_____ *State*_____

Carrier

AIR CONDITIONING • REFRIGERATION

SCHLAGE LOCKS ...

DISTINCTIVE appearance...TIME-PROVEN performance



SCHLAGE PLYMOUTH DESIGN
with Riviera escutcheon

The quality of Schlage cylindrical locks is clearly evident ... in their beauty and in their trouble-free operation... time-proven for more than a quarter of a century.

SCHLAGE®

THE Time-Proven CYLINDRICAL LOCK

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This office was planned for permanent flexibility

HAUSERMAN
Movable Interiors

OFFICES • SCHOOLS • LABORATORIES
HOSPITALS • INDUSTRIAL PLANTS

Korweld* —the non-metallic panel construction which combines the best features of *all* types of interior partitions—is an exclusive Hauserman development. Ask your Hauserman Representative for facts about this revolutionary new product.
*Trademark

Thanks to its walls, this beautiful office is a permanently practical investment. As space requirements vary in coming years, everything in this office—*including the walls*—can be moved or rearranged in a matter of hours.

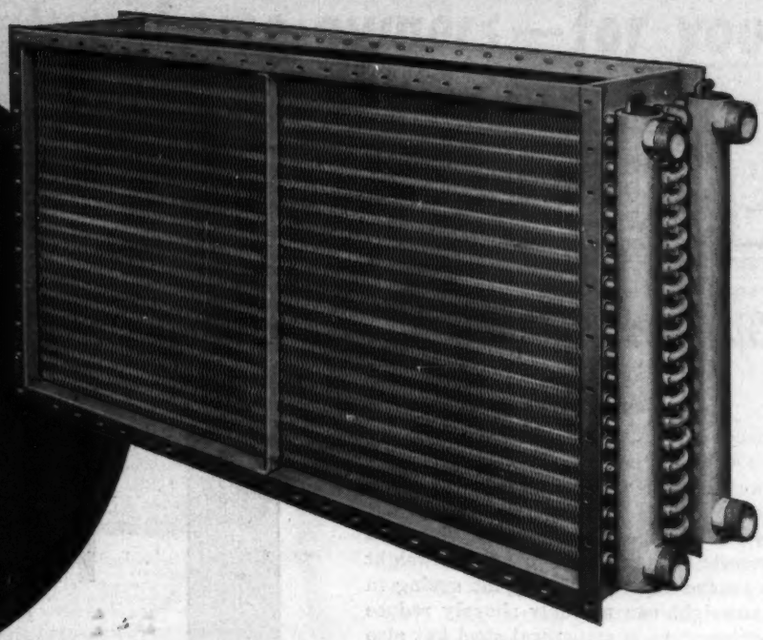
Here, indeed, is the solution to future expansion problems for *this* company, and for the thousands of other American businesses—commercial, industrial and institutional—which now enjoy the many benefits of Hauserman *Movable* Interiors.

Today the demand for Hauserman *Movable* Interiors is the greatest in our almost 40-year history. Although production expansion already is underway, we urge you to *plan now*—as far in advance as possible—in order to insure delivery and erection of your clients' future Hauserman installations *on schedule*.

Your nearby Hauserman Representative will gladly furnish you with complete information . . . or write *today* to The E. F. Hauserman Co., 7167 Grant Avenue, Cleveland 5, Ohio.

NEW STANDARD OF QUALITY!

McQuay COILS

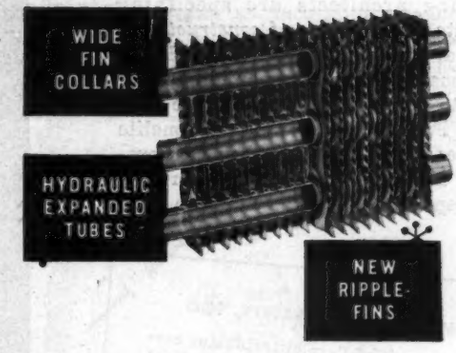


. . . featuring NEW RIPPLE-FIN CONSTRUCTION

Now, the new, improved Ripple-Fin makes McQuay Water Cooling Coils even more rugged and efficient. Consider these advantages of the new Ripple-Fin Coil construction:

- Easy to drain of condensed moisture. Water hang-up has been sharply reduced on coils requiring vertical (up) air flow.
- Produces a rippled air flow pattern . . . closer and longer contact between the air stream and the coil surface, preventing air by-pass and producing faster heat transfer.
- Permits increased face velocities without danger of moisture carry-over from fin surface to air stream.
- Offers greater heat transfer surface.
- Gives higher flexible strength with minimum air friction and cleaner operation.
- Copper tube headers provide inherent flexibility.
- Hydraulic expansion of all tubes into fins having wide smooth collars assures permanent mechanical bond.

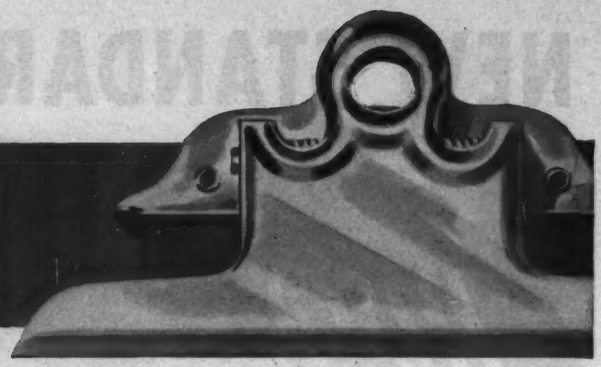
Available in a wide variety of styles and sizes. Standard and special coils for cold water, brine, direct expansion, refrigerant condensing, steam, hot water, and other applications. Write McQuay, Inc., 1605 Broadway St. N.E., Minneapolis 13, Minn. Representatives in principal cities.



EXCLUSIVELY YOURS IN McQuay COILS!

McQuay INC.

HEATING • AIR CONDITIONING • REFRIGERATION



In floor fill

in roof fill

PERMALITE

lightweight aggregate

FILLS THE BILL

- Reduces deadload
- Cuts steel needs
- Lowers heat loss
- Fire resistant
- Availability unlimited
- Quality controlled
- Perlite Institute approval

Permalite expanded aggregate gives you concrete with only 1/7 to 1/3 the weight of sanded concrete. The great saving in deadweight can not only sharply reduce requirements in structural steel but also cut construction time and costs.

Permalite offers you consistent, rigidly controlled quality on every job, first bag to last. In its weight class, Permalite mixes require less water, have less drying shrinkage, higher strength, less absorption and have greater resistance to freezing and thawing.

Leading architects are specifying Permalite for *all types of construction* — industrial buildings, schools, hospitals, defense housing and military buildings. For full facts and specification data see your Sweet's File or send for new Permalite brochure; Great Lakes Carbon Corporation, 18 East 48th Street, New York 17, N. Y., Dept. 103.

MAKES BETTER PLASTER, TOO

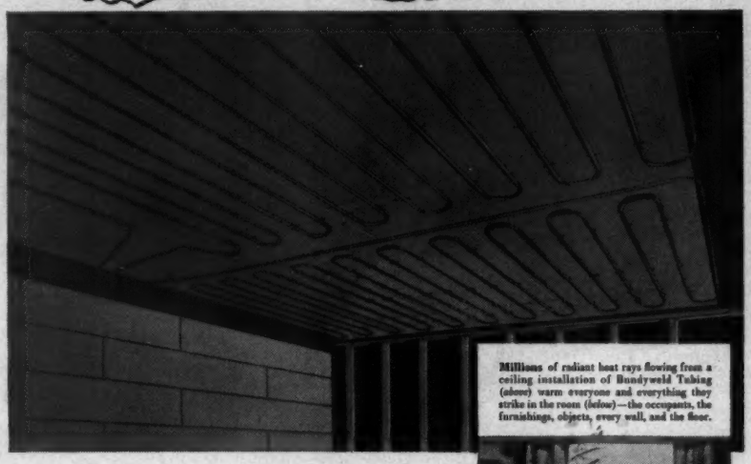
U. L. approved Permalite/plaster carries maximum fire ratings up to 4 hours — does a faster, easier job of fireproofing structural steel. On walls and ceilings, it assures lighter, more crack-resistant base coats.

Permalite®

THE LEADING PERLITE AGGREGATE

A Building Product of Great Lakes Carbon Corporation and its Exclusive Permalite Licensees

"Choose ceiling radiant heating," says Bundy to future home owners—for you



Millions of radiant heat rays flowing from a ceiling installation of Bundyweld Tubing (above) warm everyone and everything they strike in the room (below)—the occupants, the furnishings, objects, every wall, and the floor.

Like having the sun in your ceiling—Bundyweld ceiling radiant heating

Have you considered the many advantages of ceiling radiant heating for that home you are planning to buy, remodel, or build? This truly modern system offers you savings, conveniences, and comfort not matched by any other.

With ceiling installations of Bundyweld, for example, heat rays flow evenly, freely *downward*, not up through floors to be lost in rugs, furniture, draperies. Here in heating that really radiates, gently warming everyone and everything in the room. Heating so comfortable, so natural it's like having the sun in your ceiling.

Savings, too

More, because it's draft-free heat, less dust is carried onto upholstery, curtains, draperies. Because it's even heat, no dirt streaks form on walls or ceilings. You save extensively on dry-cleaning, wall-washing, and redecorating costs, enjoy easier day-to-day housekeeping.

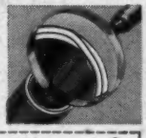
These home maintenance economies, plus fuel savings over the first few years, more than pay for any additional first costs. Continuing yearly savings make this your most economical long-run heating system by far.

Talk to your real estate man, heating contractor, architect, or builder about radiant heating now. And about Bundyweld Tubing, too. Bundyweld is the *only* tubing double-walled from a single strip. It's tough steel tubing, copper-coated inside and out. Bundyweld is leakproof, takes high pressures in stride, transmits heat quickly.

Send coupon for free booklet

Send coupon at right for free booklet describing fully the many advantages of ceiling radiant heating. Radiant Heating Division, Bundy Tubing Company, Detroit 14, Michigan.

No radiators or registers to interfere with furniture arrangements or take up valuable floor and wall space.



Bundyweld is the *only* tubing double-walled from a single strip. It's quickly, easily fabricated into completed radiant heating grids —with major savings in time and construction costs

Radiant Heating Division
Bundy Tubing Company, Detroit 14, Michigan
Send me the free literature I've checked:
☐ Bundy consumer brochure on ceiling radiant heating
☐ Bundy technical brochure for the trade
Name_____
Company_____
Address_____
City_____ Zone_____ State_____

BUNDY TUBING COMPANY
Detroit 14, Michigan
WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING

First ad in new national campaign directed to future home owners.

Advantages of Bundyweld Tubing

Bundyweld is the only tubing double-walled from a single strip. It's steel, copper brazed through 360° of wall contact, copper-coated inside and out. It gives perfect radiant heating performance. Bundyweld transmits heat quickly. It's leakproof. Its smoothness and freedom from scale promote unimpeded water flow.

Bundyweld gives major fabrication savings, too. Bundyweld comes in 20' lengths for easy handling, one end expanded (when specified) for easy joining. Ductile Bundyweld bends easily on simple fixture. Lightweight, rigid grids of Bundyweld are easily, quickly mounted on ceiling.

It is the conviction of Bundy Tubing Company that radiant heating systems rightly belong in *ceilings*.

Bundy tells future home owners *why* in an intensive, full-page, four-color campaign appearing in *Better Homes and Gardens* and *American Home*—magazines carrying immense weight with consumers interested in buying, building, or remodeling homes.

Are you ready?

Interest in radiant heating has spurted sharply upward since the end of World War II. The all-new Bundy campaign is designed to give future home owners important information on *ceiling* radiant heating and on the Bundyweld Tubing features that help assure a perfect, long-lasting, economical system.

This campaign, of course, will help pave the way to even stronger consumer acceptance of ceiling radiant heating and Bundyweld Tubing. Result for architects and builders: Those who offer Bundyweld ceiling radiant heating systems will have a powerful, convincing, and much-wanted sales feature to speed sales to receptive buyers. Result for plumbing and heating contractors: Continually increasing business and good, sound profits from the installation of Bundyweld ceiling radiant heating systems.

Radiant Heating Division
BUNDY TUBING COMPANY
Detroit 14, Michigan

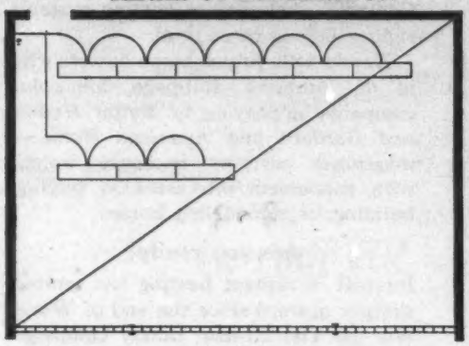
The Bundy consumer brochure on ceiling radiant heating, to be offered in every national radiant heating ad, was written with you in mind, too. Let us send you a copy. It's packed with meaty facts.

Radiant Heating Division
Bundy Tubing Company, Detroit 14, Michigan
Send me the free literature I've checked:
☐ Bundy consumer brochure on ceiling radiant heating
☐ Bundy technical brochure for the trade
Name_____
Company_____
Address_____
City_____ Zone_____ State_____

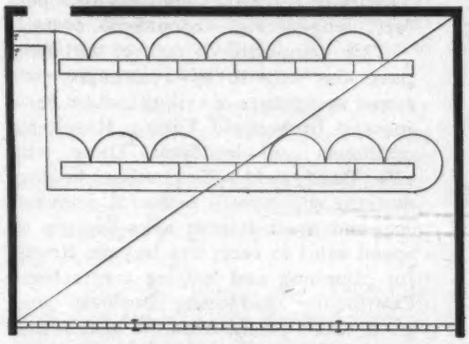
How To Have EFFECTIVE LIGHTING

and still conserve critical materials

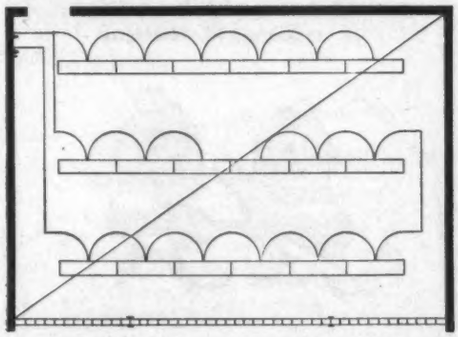
1 **Use Functional Lighting Layouts, Requiring Minimum of Luminaires.**



Save 1½ rows of luminaires—Minimum plan to supplement daylight. Utilizes 1½ rows of fixtures; corrects for body shadow cast by daylight from window-wall.



Saves 1 row of luminaires—Requires two rows of luminaires on the side away from window-wall. Supplementary light is completely adequate for daytime use.



Full functional 3-row layout—When a classroom is to be used at night. Circuits provide for 1½ rows with daylight; 3 full rows at night.

2 **Use Wakefield luminous-indirect fixtures that require a minimum of steel.**

The Wakefield Star and Commodore both have reflectors made of non-critical Plaskon. Only hangers and wire-ways are metal. Thus, specifying Wakefield Stars or Commodores saves critical material while insuring ideal lighting conditions.

The translucent plastic reflectors completely shield the lamps, and provide a smoothly distributed, well-balanced light, free from glare and sharp brightness contrasts. The ceiling becomes the primary source of light, with the fixture and side-walls becoming a secondary source—a basic requirement of supplementary lighting for "Co-ordinated Classrooms."

Write for your copy of our 20-page booklet, "Supplementary Lighting for the Co-ordinated Classroom." Address The F. W. Wakefield Brass Company, Vermilion, Ohio.

Wakefield Over-ALL Lighting

BASIC FOR CO-ORDINATED CLASSROOMS

housekeeper's helper

when keeping house is a business proposition

...new colors of easy-to-clean Suntile

Cleanliness is a dollars and cents matter in industrial kitchens or cafeterias, in food or drug plants, laboratories or public buildings. In fact, cleanliness is a "must."

Your selection of the right material for walls and floors will have much to do with the cost as well as the ease of cleaning and maintaining these interiors.

For instance, real clay Suntile has a hard, impervious glazed finish that is easy to clean with inexpensive soap and water. Dirt, grease, and smudge find no haven with Suntile. Costly, periodic redecorating and refinishing are ended practically for the life of the building.

Beyond this, however, Suntile has *color* advantages that also aid "housekeeping." New mottled tones of Suntile tend to resist soiling and reduce the necessity for "mirror-like" maintenance.

This very practical result is typical of the new Suntile functional color line. Better lighting, increased production, fewer accidents and higher employee morale are other results with sound business advantages.

HOW TO SELECT COLORS THAT ARE RIGHT for commercial, industrial and institutional interiors is discussed in our new descriptive booklet "Suntile Functional Color Recommendations." Your Authorized Suntile Dealer will give you a free copy or you may write us direct, Dept. AR-3, **The Cambridge Tile Mfg. Co., P. O. Box 71, Cincinnati 15, Ohio.**

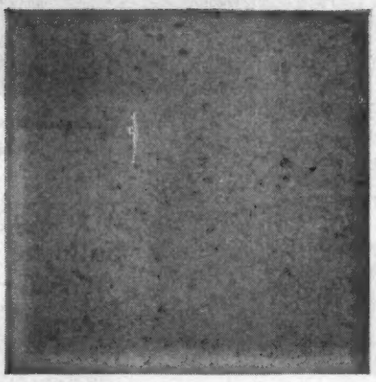
WEST COAST OFFICES

The Cambridge Tile Mfg. Co.
470 Alabama Street
San Francisco 10, California

The Cambridge Tile Mfg. Co.
1335 South La Brea
Los Angeles 19, California

Suntile

GRAY HAUTEVILLE 734
a neutral tone
of great service



Suntile Gray Hauteville is a mottled gray tone. Gray has widespread use in many different types of interiors. The mottled effect makes it even more practical. This new gray is a warm, neutral color that avoids the "faded" tints of the past. It helps to control glare and create working conditions where vision is at its best. For obvious reasons mottled gray tends to combat dirt, smudge and stains. Suntile Gray Hauteville is but one of the functional colors in the new color line developed by Faber Birren, noted color authority, and The Cambridge Tile Mfg. Co.

SUNTILE OFFERS YOU BOTH • BETTER TILE • BETTER INSTALLATION

Featured in America's Finest Multiple Dwellings

KENNILWORTH APTS., PITTSBURGH, PA.
10 STORIES—136 UNITS

Constructed and Managed by—BEHRMAN & PASSELL
Architect—TENNYSON & VAN WART

USF
WOOSTER
Hollow Steel
DOORS
AND FRAMES

A growing feature of modern residential building is the specification of USF "Wooster" Hollow Steel Doors and frames throughout. This typical installation, The Kennilworth in Pittsburgh, reflects the trend by featuring Wooster Doors and Frames at all corridor entrances, all interior doors, and also in sliding closet doors.

- **FIRST to obtain the UL Class B Label on 1⅜" doors**
- **FIRST to meet A.S.T.M.—1½ hour fire test on 1⅜" doors**

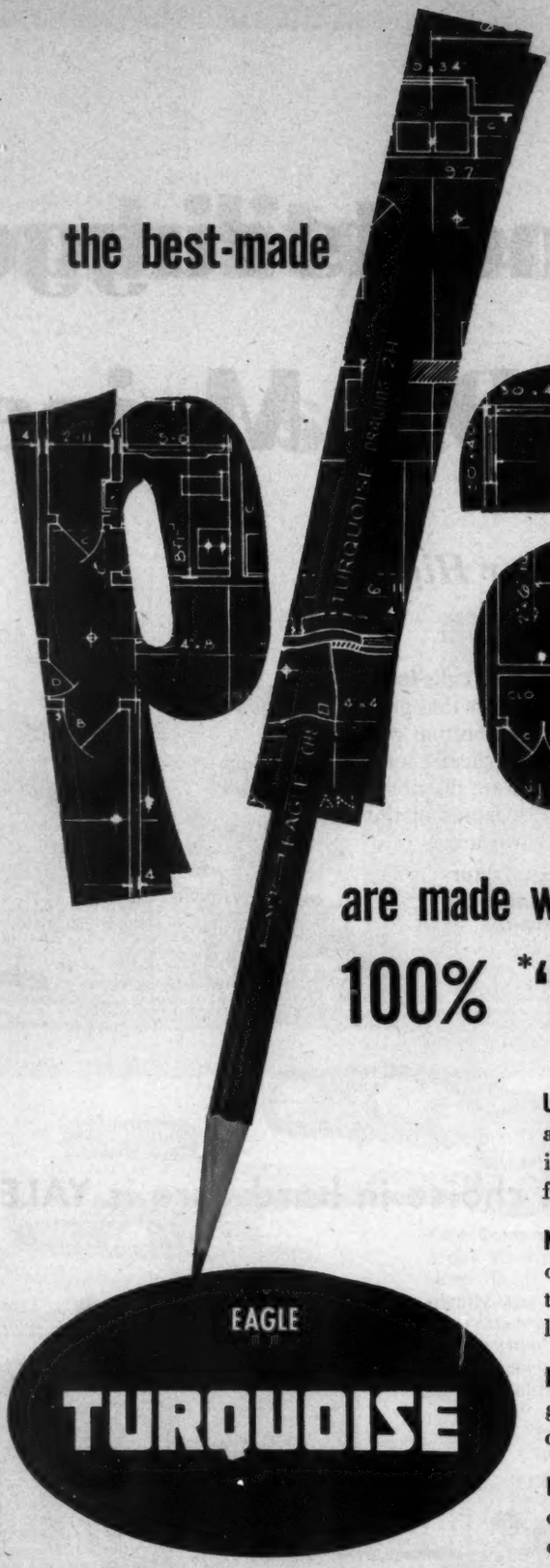
United Steel Fabricators INC.
WOOSTER, OHIO

Manufacturers of: Hollow Metal Doors and Frames • Prefabricated Metal Buildings • Corrugated Metal Window Wells • Highway Guard Rail • Structural Plate Bridge Flooring • Corrugated Metal Pipe

USF

the best-made

plans



are made with Turquoise containing 100% *"Electronic" Graphite!

Unmatched smoothness! "Electronic" is Eagle's trade name for a blend of purest crystalline graphites reduced to micronic fineness in our patented-Attrition Mill. Leads made with it 100% have a frictionless, smooth-gliding quality never approached before.

Non-crumbling points! The microscopic graphite particles of infinitely varied, close-interlocking shapes combine with the clay binder to form the strongest, longest-wearing lead structure ever made.

Perfect reproduction! Because millions more of these finer graphite particles are compacted in every inch of its lead, Turquoise deposits denser, blacker, even lines that reproduce to perfection.

Precision grading! 17 individual, exactly controlled formulas of Electronic graphite and clay keep the 17 degrees of Turquoise evenly spaced and as true as a plumb line.

Free Sample: Write for a free sample, naming this magazine, your dealer, and the grade you desire.

*®

EAGLE PENCIL COMPANY • NEW YORK • LONDON • TORONTO

AMERICA'S NUMBER 1 BUILDINGS USE ME

YALE meets ruggedu
Des Moines' ne

Ultra modern Benjamin Franklin Junior High equipped exclusively with Yale hardware

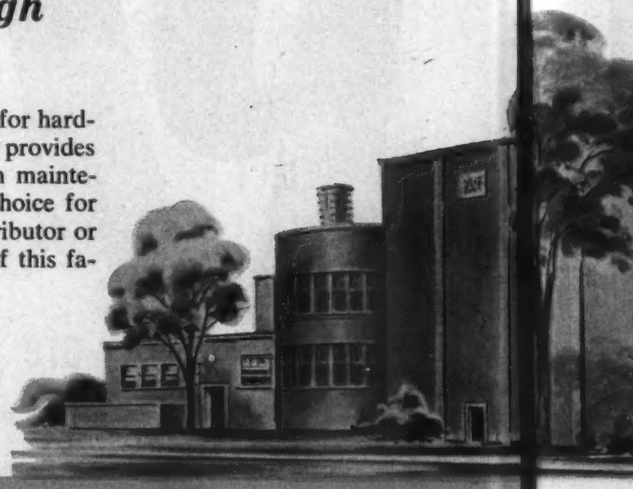
• PERHAPS the greatest testimony to the quality of Yale hardware is the fact that Yale has been specified for so many schools.

Take the new Benjamin Franklin Junior High, for example...

Here, as in most schools, the emphasis is on durability and economy as well as beauty. Architects and contractors demanded a product that could deliver years of trouble-free service under the severest of operating conditions. And so—they logically chose Yale.

If your next scheduled job calls for hardware of distinctive appearance that provides maximum security at rock-bottom maintenance costs, Yale is the logical choice for you. Let your Yale hardware distributor or supplier give you all the details of this famous and fine line of hardware.

The Yale & Towne Manufacturing Co., Stamford, Connecticut.
(In Canada: St. Catharines, Ontario)



Everywhere the first choice in hardware is YALE

New Chrysler Building East. Twenty-one years of peak performance in the Chrysler Building made the selection of Yale automatic when it came to this magnificent new addition—the Chrysler East.

St. Joseph's Hospital. The staff of this new hospital in Phoenix know they can rely on their equipment. Dependability dictated the selection of all materials—including Yale hardware!

The Carlton House. A fifteen story apartment hotel, the new Carlton House represents the last word in luxurious living in New York. Excellent taste shows in every detail including the Yale hardware.

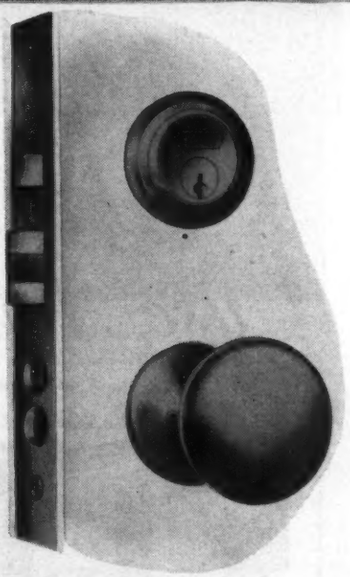
AMERICA'S NUMBER 1 HARDWARE

edurability requirements of s newest school!

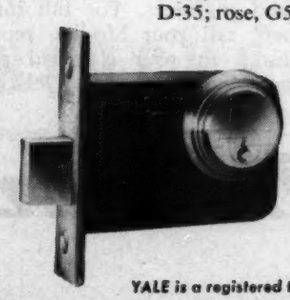
And gets the order!

Architects: Tinsley-Higgins & Lighter, Des Moines, Iowa
Gen. Contractor: The Weits Co., Des Moines, Iowa
Hardware Contractor: Kurtz Hardware, Des Moines, Iowa

Yale Compact Door Closer— Series 90—Unusually durable, this closer holds doors wide open or slightly ajar for ventilation. Features rotary piston that permits trim beauty while giving firm, powerful closing action. In many sizes, models, and finishes.



Yale 8656 Builders' Lock ⟶ With unlimited key changes, this popular lock boasts the additional security of five pin-tumblers. Easy to adjust to door thicknesses. Knob, D-35; rose, G522.



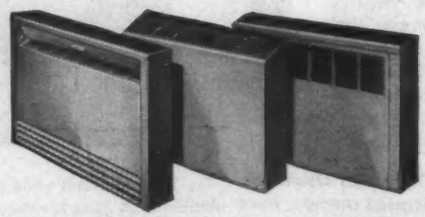
⟵ Yale 325 Deadlock Key operated outside, knob inside, the #325 is a five pin-tumbler deadlock with almost unlimited key changes: Bronze front and bolt with annealed gray iron case. Easily adjustable to door thicknesses.

YALE & TOWNE

YALE is a registered trade mark

New Elizabeth Waters school chooses MODINE
Built at a cost of $1,000,000, this new Fond du Lac, Wis., elementary school relies on Modine Convectors for dependable, healthful heating service. Architect: Frank J. Stepnoski & Son. General Contractor: Hutter Construction. Plumbing and Heating Contractor: John F. Ahern Co. All firms are in Fond du Lac.

America's finest buildings use America's finest convectors



Choose from three enclosure types in Standard and heavy-duty Institutional models for free-standing, recessed or wall-hung installation

FOR today's schools, superior heating performance must be teamed with attractive styling and long-life construction. On all counts, Modine Convectors meet exacting professional standards. That's why more and more Modine Convectors are being specified by leading architects and engineers. For full information on heating at its finest, call your Modine representative. You'll find him listed in your classified phone book. Or write Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wis.

R-1137

Modine CONVECTORS

IN PLANNING YOUR NEW SCHOOL

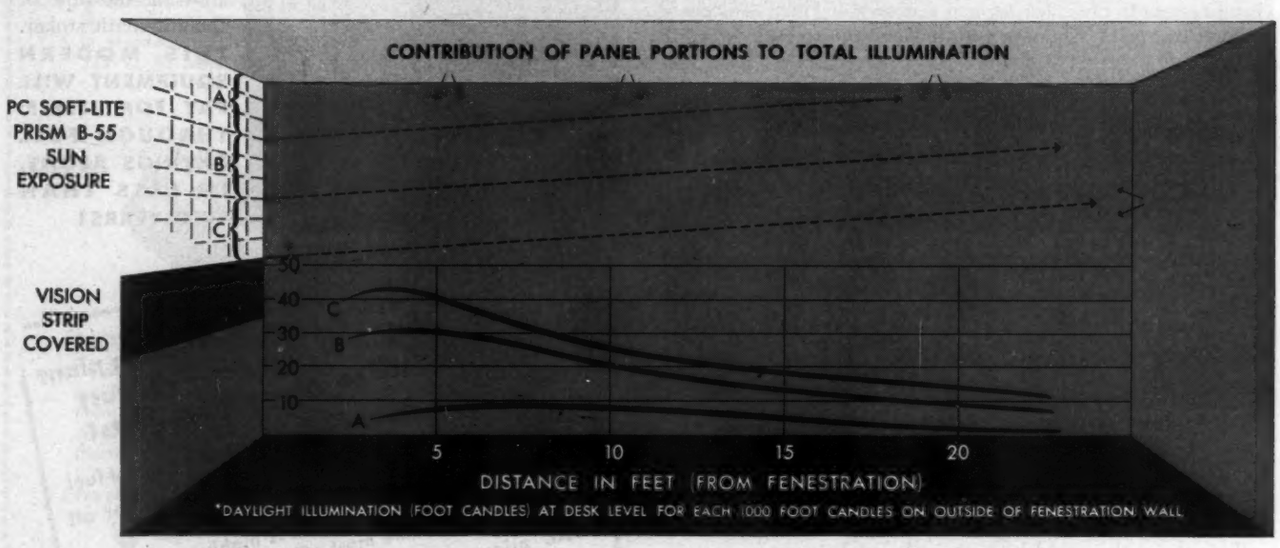
...save steel and money!

Here's how LOWER CEILINGS can help you do it...Take these TWO steps:

1. REDUCE YOUR CLASSROOM CEILING HEIGHT...
Use a 10-foot ceiling height instead of the usual 12-foot or higher. Architects estimate a saving of $500 to $1,000 per classroom for a two-foot reduction in ceiling height. The reduced cubage of the building means less critical material required—especially steel—and lower construction costs. Also, the finished rooms are easier to heat . . . need less maintenance . . . provide a more attractive educational environment.

2. PLAN FOR CONTROLLED DAYLIGHTING...
Daylight your new school with panels of Pittsburgh Corning Light-Directing Glass Blocks. The following sketch shows how orientation-keyed patterns of PC Glass Blocks (Soft-Lite Prism B 55 for sun exposures and Prism A 55 for non-sun exposures) spread daylight in low-ceilinged classrooms. Tests prove that the bottom third of a glass block panel, beginning at eye level, provides 50% of the light that is directed to the far corners of a room. Because of this fact, ceiling heights can be safely lowered without greatly effecting the high standard of daylight performance needed to maintain visual comfort for pupils and teachers. Further, lower ceilings reduce the number of glass blocks needed for the fenestration—another saving to you in material costs.

With PC Prism Glass Block fenestration, it is the lower portion of the panel that carries the daylighting load—as shown by illumination curves C and B below.



LINE A—Daylight delivered on desk tops by top 3rd of PC Prism Glass Block Panel (10-12 ft. above floor level)
LINE B—Daylight delivered on desk tops by middle 3rd of PC Prism Glass Block Panel (8-10 ft. above floor level)
LINE C—Daylight delivered on desk tops by bottom 3rd of PC Prism Glass Block Panel (6-8 ft. above floor level)

PC Glass Blocks are immediately available. When properly designed, PC Glass Block construction requires no critical materials.

PITTSBURGH CORNING CORPORATION
PITTSBURGH 22, PA.

PITTSBURGH PC CORNING ®

GLASS BLOCKS

The mark of a modern building

Distributed by Pittsburgh Plate Glass Company; W. P. Fuller & Co. on the Pacific Coast; Hobbs Glass Ltd. in Canada; and by leading distributors of building materials everywhere.

Pittsburgh Corning Corporation
Dept. BA-32, 307 Fourth Avenue
Pittsburgh 22, Pa.

Please send me complete information on how to control daylight with PC Glass Blocks.

Name.....

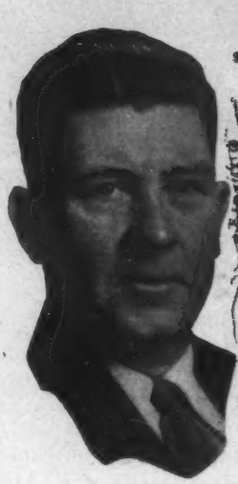
Address.....

City.....**State**.....

"We 'educated' our College Heating Plant...

with a modern coal installation we saved more than a third of our fuel bill,"

says Mr. James Gribben, Chief Engineer of Bethany College, Bethany, West Virginia.



"Colleges watch operating costs as closely as any business firm—and one big item for our college is the heating bill. That's exactly why Bethany went to the expense of putting in new coal heating equipment! Our old system supplied heat for sixteen buildings—to the tune of 2,600 tons of coal a year. Our new installation, with its automatic stoker, does the same job using only 1,650 tons. That's a fuel saving of 38.9%! Our eyes certainly have been opened to the efficiency and economy of *bituminous* coal—especially when it's burned with modern equipment."

Here's Bethany's new boiler room, showing the pipe of the automatic stoker. **THIS MODERN EQUIPMENT WILL PAY FOR ITSELF, THROUGH FUEL SAVINGS ALONE, IN LESS THAN TWO YEARS!**

Modern combustion installations can add anywhere from 10% to 40% to the energy obtained from the same amount of coal in years gone by. Great advances have been made in coal- and ash-handling equipment, too—cutting labor costs—making coal as clean and convenient to use as any fuel.

If you're planning to modernize your present installation—or thinking of building a new plant, call in a competent consulting engineer. He'll show you how a modern coal system designed to meet your specific needs can save you money and serve you better!

And don't forget—you'll always be able to get the coal you need. America's coal industry is the most efficient in the world. America's coal reserves are ample for centuries to come. Right now and for the future, too, coal users can be assured of a dependable fuel supply at reasonable prices.

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association
Washington, D. C.

If you're running your own steam plant—for heat or for power—you just can't afford to ignore these facts!

COAL in most places is today's most economical fuel.

COAL resources in America are adequate for all needs—for hundreds of years to come.

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

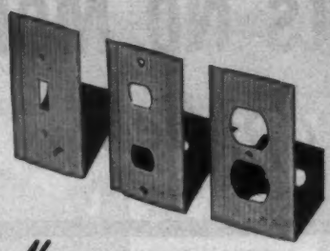
COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

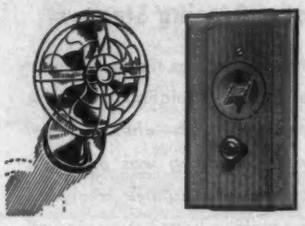
FOR HIGH EFFICIENCY FOR LOW COST

YOU CAN COUNT ON COAL!



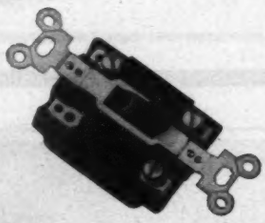
***New* UNILINE PLATES**

One attractive design to fill *all* wall plate needs. Blends with all interiors; provides complete architectural uniformity. Available in Bakelite and Ivorylite for Standard and Interchangeable devices.



FAN HANGER OUTLET

This neat device provides in one unit both electrical connection and mechanical support for fans. Modern Uniline design in Bakelite or Ivorylite. Easily installed in standard 4" box. 15 Amp. 125 V., 10 Amp. 250 V.



BACK-OR TOP-WIRED SWITCH

Installed without bending or looping wire. Ideal for use with heavier wiring needed to meet modern electrical demands. Specification grade, T rated. 10 and 20 Ampere sizes with Brown or Ivorylite levers or lock.

BACK-OR SIDE-WIRED CONVENIENCE OUTLETS

Advanced design for fast installation. An exclusive H&H feature allows instant conversion from Duplex to 2-Circuit receptacle by removing detachable fin. 15 Amp. 125 V., 10 Amp. 250 V.

ELECTRICAL AVAILABILITY

Important to SCHOOLS, OFFICES HOSPITALS, STORES

Build your reputation by jobs done well. Make sure your specifications provide the full, modern electrical availability so important to your clients. Look to the complete H&H line; for **every** circuit requirement there's an H&H wiring device to give the ultimate in performance, convenience and dependability. You can make your electrical planning jobs easier, better; send today for your copy of our big, fully illustrated catalog. Just write to 1903 Laurel Street, Hartford 6, Connecticut.

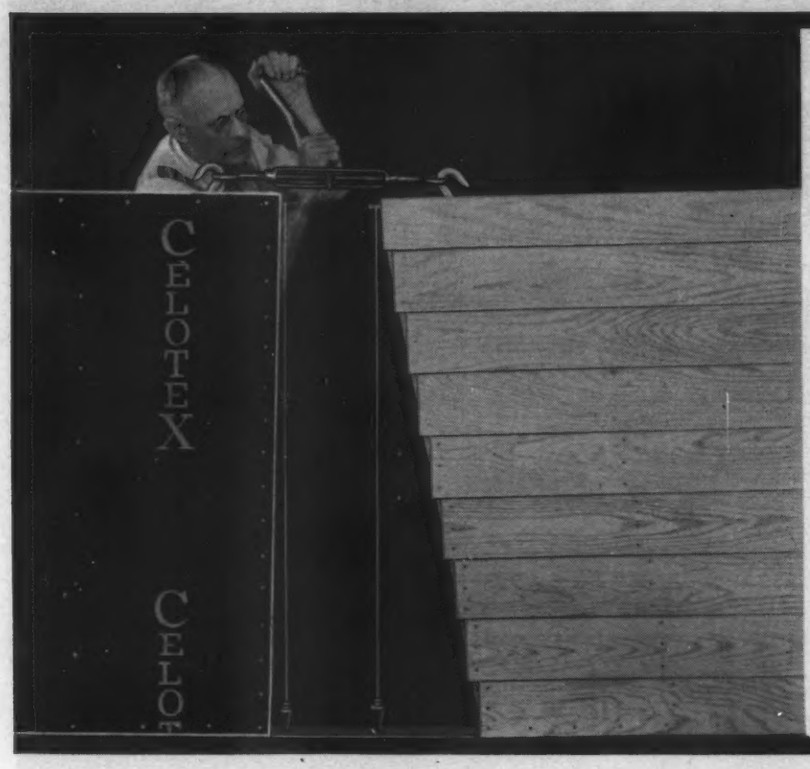
HART H&H HEGEMAN DIVISION

Wiring Devices AND ENCLOSED SWITCHES

THE ARROW-HART & HEGEMAN ELECTRIC CO., HARTFORD, CONN.

Does Far More...Yet Costs No More

than ordinary sheathing, applied!



"Tug of War" Test Proves Greater Bracing Strength

As the turnbuckle was tightened, note how the Celotex Insulating Sheathing panel remained plumb—*while the panel of ordinary sheathing was distorted.* Now you see why Celotex Insulating Sheathing builds a better, stronger wall at lower cost! Why it belongs in your specifications!

CELOTEX INSULATING SHEATHING does several jobs at one cost

Applied (that's the only way to figure *true* cost), Celotex Insulating Sheathing costs no more, and USUALLY LESS, than ordinary sheathing. Yet it gives you far more.

1. **INSULATES AND WEATHERPROOFS** as it builds. All at *one* cost. No building paper needed. Saves labor, materials.
2. **GREATER BRACING STRENGTH,** about 30% greater than ordinary sheathing. *No corner bracing* needed to meet FHA requirements, with 4' wide, 25/32" thick Celotex Insulating Sheathing.
3. **GOES UP 30% FASTER.** Easier to cut and fit. Up to 15% less waste. Siding or shingles can easily, quickly be applied *direct.*
4. **DOUBLE-WATERPROOFED.** Inside, by integral treatment that coats every fibre; outside, by asphalt coating on both surfaces and all edges. Yet it has over twice the vapor permeability required by government agencies!
5. **IT'S THE ONLY SHEATHING** made of tougher, stronger, long Louisiana cane fibres—and protected by the patented Ferox® Process from dry rot and termite attack.
6. **NATIONALLY ADVERTISED** in The Saturday Evening Post, Better Homes & Gardens, American Home, Farm Journal and other leading magazines.

Count up the savings and advantages, and you'll agree: Celotex Insulating Sheathing is the key to more comfortable, more enduring homes at lower cost. That's why it's being specified by more and more architects all over the country. Write now for *free* booklet giving full data. The Celotex Corp., Dept. AR-32, 120 S. LaSalle St., Chicago 3, Ill.

CELOTEX LATH CELOTEX SHEATHING

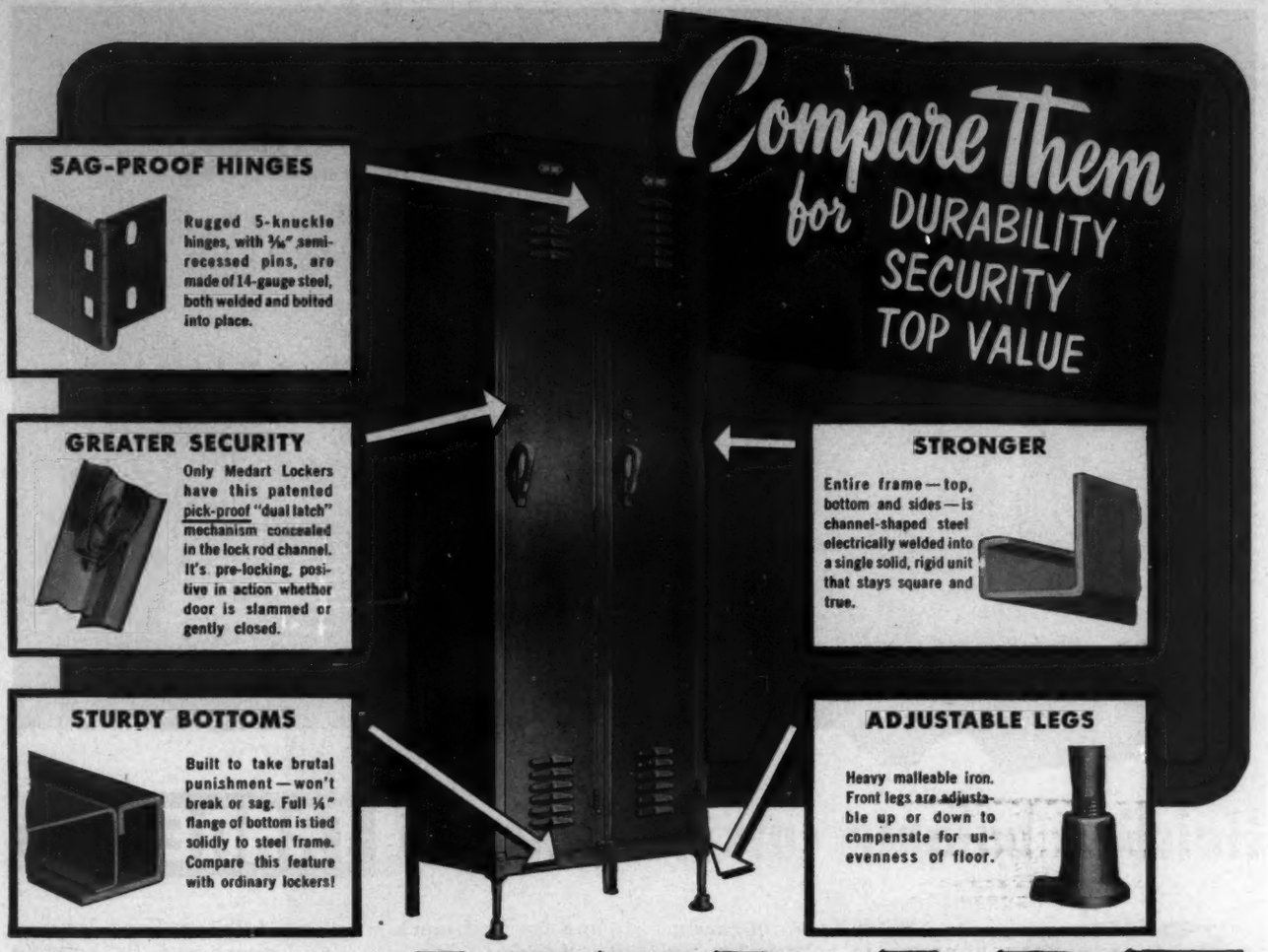
Quick, low-cost way to build

"the Ideal Wall"

Celotex Insulating Lath *insulates* as it forms a strong, solid, continuous plaster base that reduces danger of plaster cracking. Used in combination with Celotex Insulating Sheathing, it gives you "the Ideal Wall"—a better, stronger wall with BUILT-IN insulation. Write for complete information today.

For better homes . . . specify genuine **CELOTEX** REG. U. S. PAT. OFF. **BUILDING PRODUCTS**

The Celotex Corporation
120 S. LaSalle Street
Chicago 3, Illinois


Compare Them
for DURABILITY
SECURITY
TOP VALUE
SAG-PROOF HINGES
Rugged 5-knuckle hinges, with 3/16" semi-recessed pins, are made of 14-gauge steel, both welded and bolted into place.
GREATER SECURITY
Only Medart Lockers have this patented pick-proof "dual latch" mechanism concealed in the lock rod channel. It's pre-locking, positive in action whether door is slammed or gently closed.
STRONGER
Entire frame — top, bottom and sides — is channel-shaped steel electrically welded into a single solid, rigid unit that stays square and true.
STURDY BOTTOMS
Built to take brutal punishment — won't break or sag. Full ¼" flange of bottom is tied solidly to steel frame. Compare this feature with ordinary lockers!
ADJUSTABLE LEGS
Heavy malleable iron. Front legs are adjustable up or down to compensate for unevenness of floor.

MEDART

STEEL LOCKERS

MEDART LOCKERS are built in all standard types and sizes, both recessed and free-standing.

BASKET SHELVING sturdy and very rugged, both permanent and portable, in many sizes is built by Medart.

A better constructed, stronger, more serviceable locker can't be bought! More than that, because Medart originated virtually every practical feature used in modern steel lockers, Medart builds the locker that includes them *all* — not just those above, but many more!

By actual comparison you'll find the skillful engineering, best quality metals and precision manufacture in Medart Lockers are a better paying long-term investment in extra years of service, far less maintenance, appearance that stays new indefinitely, and thoroughly dependable tamper-proof protection.

Medart offers 80 years of engineering experience to help analyze and solve the most complicated locker problem. No matter how modest your budget, Medart Lockers give you more for the money!

Ask for Catalog

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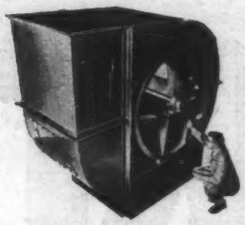
FRED MEDART PRODUCTS, INC. 3540 DE KALB STREET ST. LOUIS 18, MISSOURI

World's Only Complete Single Source For Gymnasium Equipment

Telescopic Gym Seats | Lockers & Wire Basket Shelving | Lockerobes & Grade-Robes | Basketball Backstops | Physical Fitness Apparatus | Basketball & Football Scoreboards | Physical Therapy Equipment

Hairline balance cuts vibration in TRANE fans



When TRANE engineers set out to balance TRANE Fans, they insisted on such exacting precision that two more major TRANE Fan advantages were created. Ultra-modern electronic machinery, for dynamically and statically balancing fans, was tailor-made to TRANE requirements. Balancing procedures were worked out so carefully that the tolerance permitted between wheel centerline and the center of gravity of the wheel is equal or less than the infinitely small space needed to slip the hub over the shaft. Thus TRANE Fan balance is as accurate as the fit of the hub to the shaft.

This hairline balance cuts vibration of TRANE Fans to an irreducible minimum. That's advantage Number One. As a result, fan bearings, the only point of friction in a fan, last much longer. And TRANE Fans, large as well as small, can be installed anywhere in the building without danger of damage due to vibration. Advantage Number Two is less noise. As vibration is eliminated, noise, too, is reduced.

Besides less vibration and lower noise levels, other TRANE Fan features include rugged construction for long life—streamlined air inlet that moves more air with less power—more accurate fit and tolerance for consistent performance—chlorinated rubber base paint finish to prevent corrosion.

TRANE Fans are available in Class 1 and 2 construction for many applications. They are particularly valuable when combined with TRANE Cooling and Heating Coils for a complete central air conditioning system. In TRANE Coils, the streamlined fin-and-tube and the smooth TRANE Fin offer minimum resistance to air flow. This low air friction and higher efficiency of TRANE Fans produce better performance with lower horsepower consumption. For more details concerning TRANE products, contact the TRANE sales office nearest you.

Special machines, built for TRANE (left), balance large fans both statically and dynamically. Above is a balancer for smaller size wheels.

MANUFACTURING ENGINEERS OF HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT

TRANE

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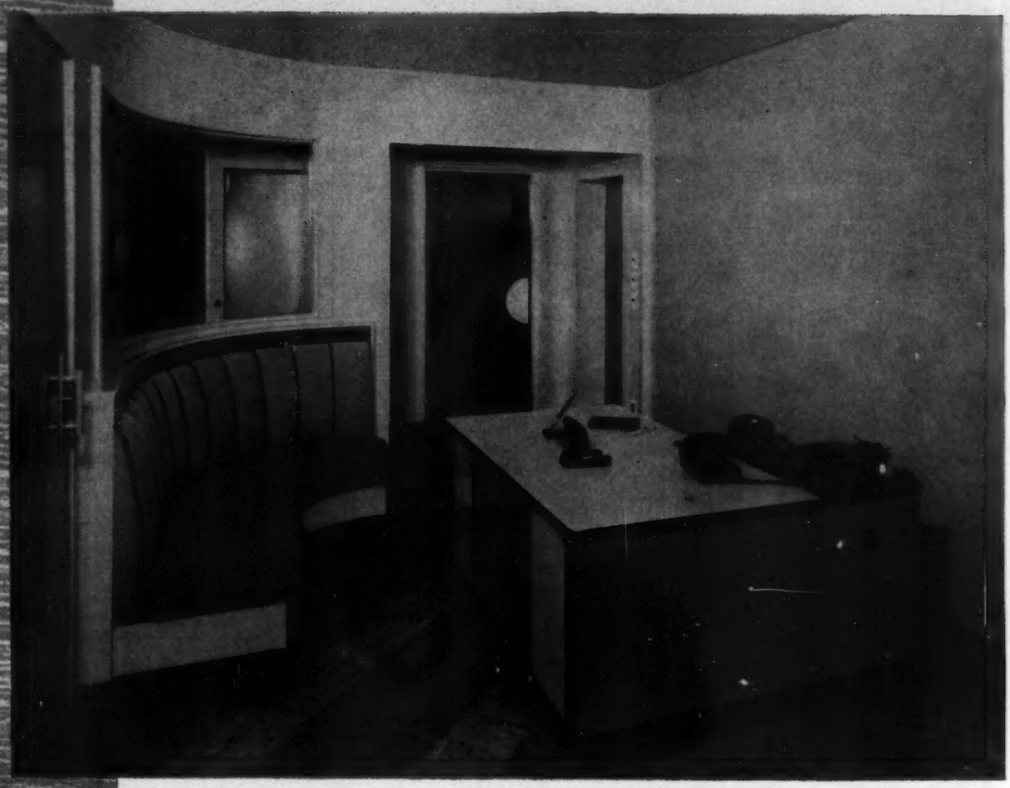
Offices in 80 U. S. and 14 Canadian Cities

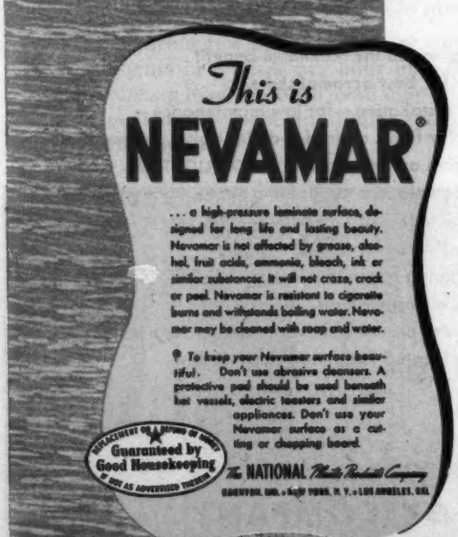
This is NEVAMAR®



The Pre-finished Surfacing Material That Builds in Beauty and Durability

NEVAMAR is as beautiful as it is practical . . . as colorful as it is durable. For NEVAMAR is a high-pressure laminate . . . a hard, non-porous surfacing material that's designed for lifetime service. A NEVAMAR surface adds immeasurably to the value of any installation. It requires a minimum of care—never needs painting or refinishing.

Specify NEVAMAR for wall panels, doors, tops, built-in fixtures . . . for anything that calls for a surface whose beauty will last thru the years. It is available in beautiful wood grains, in addition to many other attractive patterns and colors. We'll be glad to send you samples for examination.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. . . a high-pressure laminate surface, designed for long life and lasting beauty. Nevamar is not affected by grease, alcohol, fruit acids, ammonia, bleach, ink or similar substances. It will not craze, crack or peel. Nevamar is resistant to cigarette burns and withstands boiling water. Nevamar may be cleaned with soap and water.
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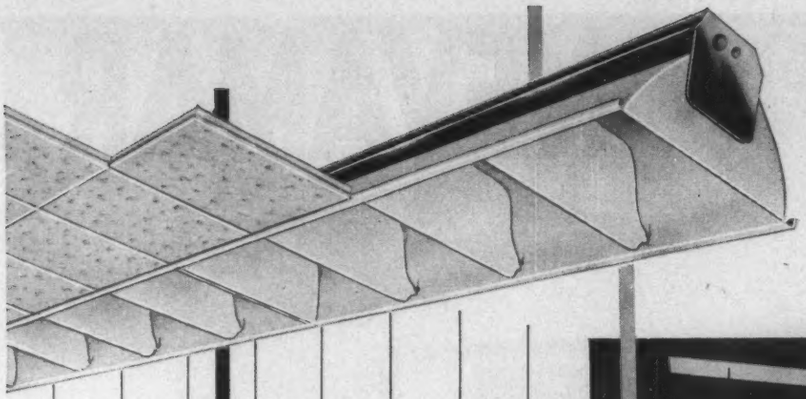

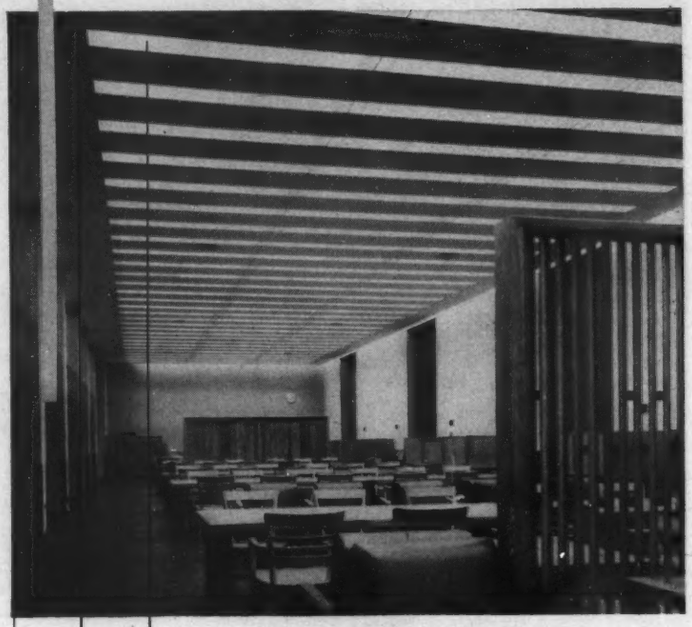

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factories
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Miller lighting systems give you the maximum benefit of *proper* lighting. Easy, accurate vision for best accomplishment. They are engineered for easy installation—for low maintenance—for long service—for finest dollar-for-dollar value. Behind them are 108 years of pioneering and progress in GOOD LIGHTING. There's no need to compromise on lighting that's "almost" right. Miller has a complete line of luminaires—Fluorescent, Incandescent, and Mercury-vapor—that cover a wide range of industrial and commercial lighting requirements—that have been proven in thousands of installations. Light with confidence the *proven* Miller way. Miller field engineers and distributors are conveniently located for nation-wide service.

Luminaire shown is the Miller deep aluminum Troffer—the ultimate in low brightness for lighting comfort. Like all Miller Troffers, units can be arranged to form ceiling patterns as desired—CEILINGS UNLIMITED*

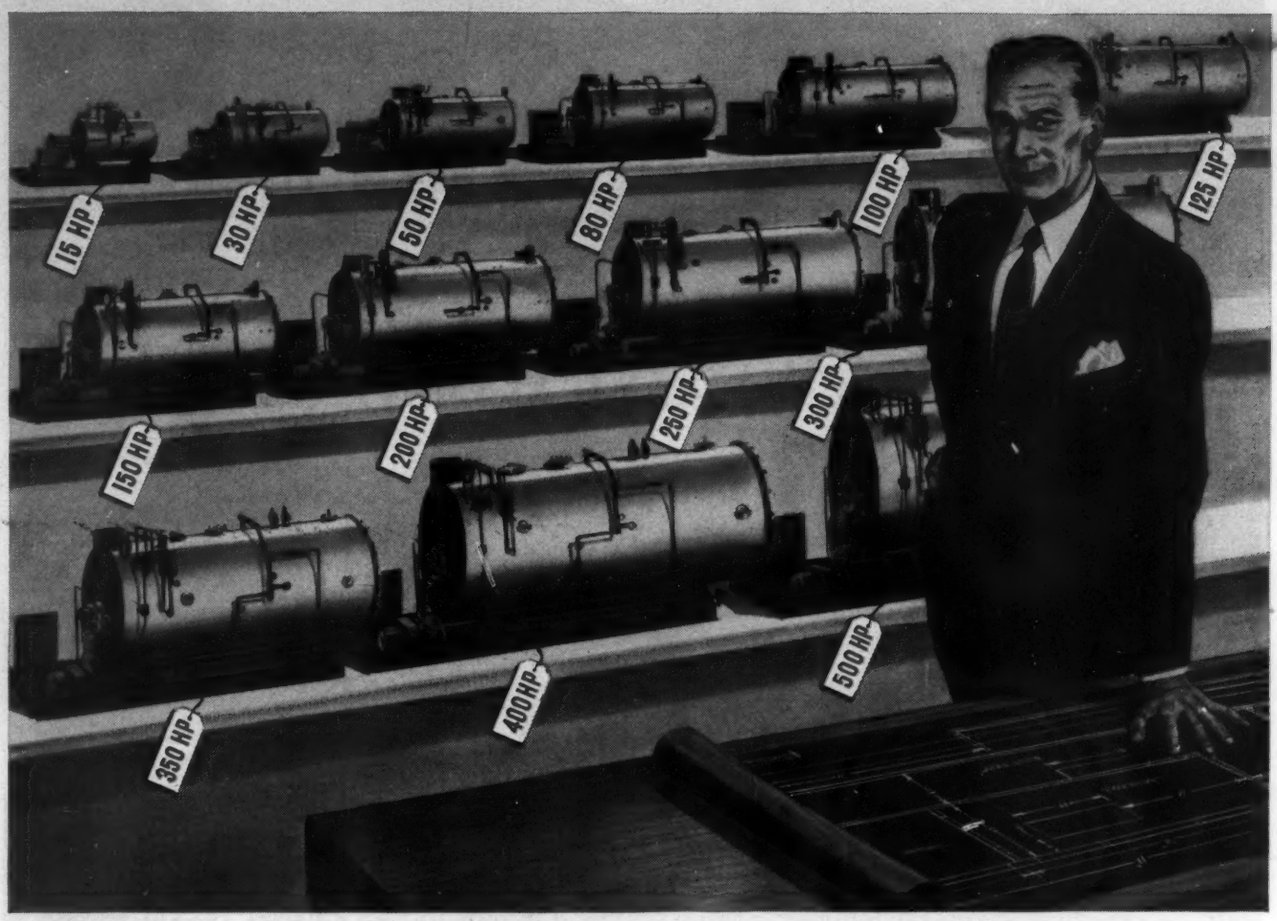
*Reg. trademark U.S. Pat. Off.

Interior shown is Lamont Library, Cambridge, Mass.
ARCHITECTS, Coolidge Shepley Bulfinch and Abbott, Boston, Mass.
LIGHTING ENGINEER, Willard Thompson, Boston, Mass.
ELECTRICAL CONTRACTOR, Hixon Electric Co., Boston, Mass.

THE miller COMPANY MERIDEN, CONN.
SINCE 1844

ILLUMINATING DIVISION: Fluorescent, Incandescent, Mercury Lighting Equipment
HEATING PRODUCTS DIVISION: Domestic Oil Burners and Liquid Fuel Devices
ROLLING MILL DIVISION: Phosphor Bronze and Brass in Sheets, Strips and Rolls

Selecting The Right Boiler Is Most Important...

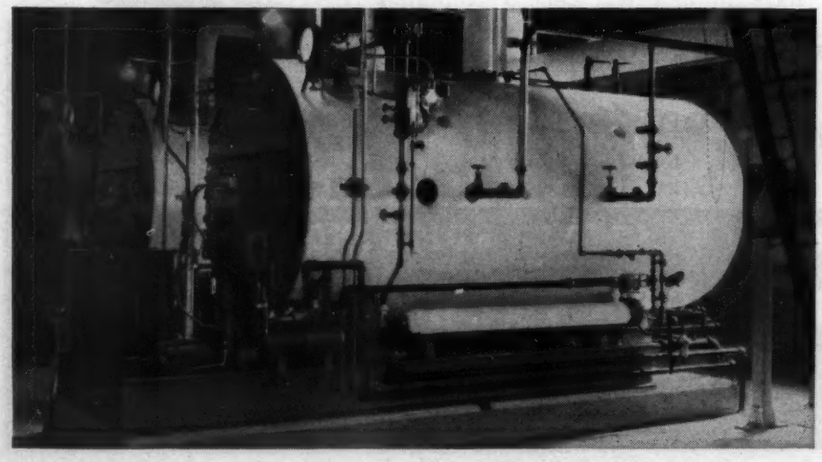


Cleaver-Brooks does not sell steam boilers "off the shelf" even though the boilers are available in standard models. Working with you, your engineers, and your consulting engineers Cleaver-Brooks helps analyze your particular steam needs and loads, both present and future.

These are a few of many factors considered: steam requirements in pounds per hour or b.h.p. — constant or fluctuating loads — fuels available — electric current characteristics — space and boiler room layout — provision for expansion.

Application engineering assistance of this kind assures you a steam plant tailored for your job. Cleaver-Brooks are the first and finest in modern, self-contained steam boilers — operate at a guaranteed efficiency of 80% — burn the fuel most available and economical in your area, gas, oil, or combination gas and oil — fully meet all codes — standard models available in sizes 15 to 500 hp; 15 to 200 p.s.i.

Write for latest, fully illustrated and descriptive Cleaver-Brooks Steam Boiler catalog.



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For the many buildings within the range of 30 to 44 foot spans, consider the structural economy where you have THREE depths of Longspans and MANY chord sizes to select from.

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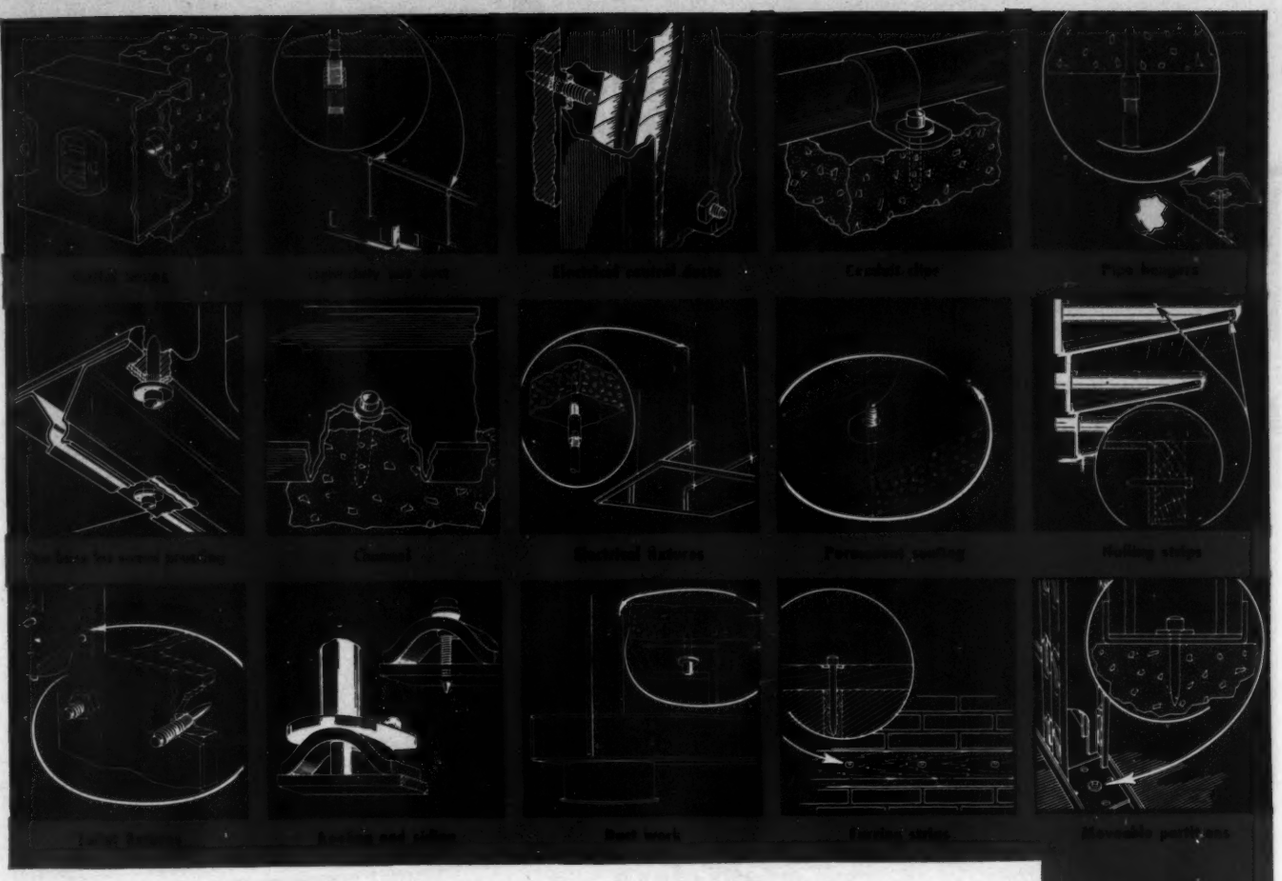

FASTEN 15/1 FASTER WITH Ramset System

FASTENING SYSTEM

These diagrams indicate the wide versatility of fast, economical RAMSET SYSTEM for construction fastening jobs . . . 15 to 1 faster than conventional methods . . . at correspondingly lower costs.

The adaptability, speed and economy of RAMSET SYSTEM have been greatly increased by our new line of Tru-Set Fasteners, with the Red-Tip Pilot that literally guides the fastener straight into the concrete or steel, resulting in pin-point accuracy of seating.

Specification and approval of "fastening with RAMSET SYSTEM" will speed completion of practically every building project, at lower cost. Our local sales representatives are at your service to suggest the most practical applications of RAMSET FASTENING SYSTEM.

Ramset Fasteners, Inc.

Pioneer in powder-actuated fastening

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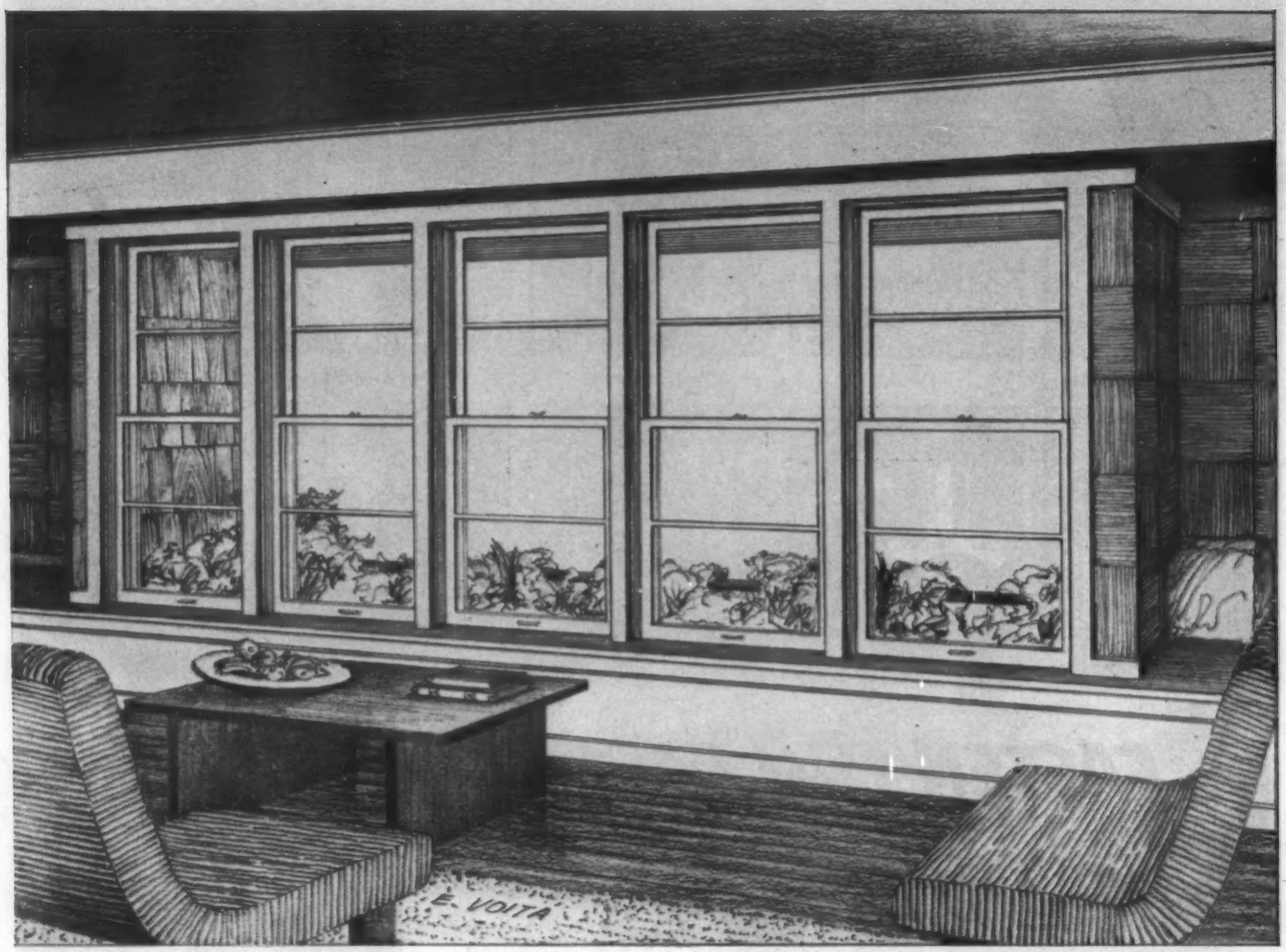
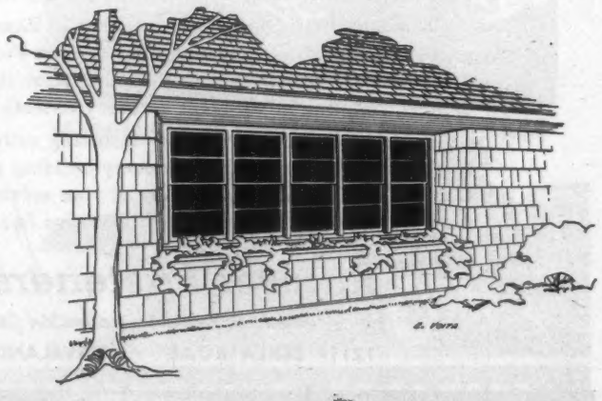
Ask For "*Modern Fastening Methods*"

This booklet will help you apply RAMSET SYSTEM to the best advantage, with detailed drawings and descriptions showing the many applications on which RAMSET saves time and money—gets work finished faster. Ask for your copy.

weather-tightness WITH WOOD WINDOWS



Under the modern, streamlined beauty of wood windows, there's an important user benefit: *comfort*. Wood windows do not easily transmit heat or cold. They can be weather-stripped efficiently at the factory. The better wood windows are carefully machined to fit snugly, yet to operate easily. Storm sash are easily fitted without additional framing. No wonder wood windows are so often specified in modern architectural design. Wood Window Program, 38 South Dearborn Street, Chicago 3, Illinois.



wood windows

for modern beauty and modern performance

AT LAST!

after years of research, the makers of FABRON* present:

Permon

TRADE MARK REGISTERED

—developed especially for wall surfaces subject to hard usage

Yes, here it is—the wall covering made to fit your own specifications—a *plastifused fabric wall covering . . .* with a plastic armor permanently fused to fabric to provide advantages never before combined in a flexible wall covering.

You specified durability—the strength to withstand the abuse to which corridor walls, for example, are subjected. PERMON has it—and then some!

You specified beauty—colors of decorative quality and diversity. PERMON has them—and then some!

You specified easy application . . . no shrinkage after installation . . . washability . . . moderate cost. PERMON meets the specifications in every respect—and to a degree unmatched by any other flexible wall covering available today.

Reason? PERMON was built to *your* specifications by the *only firm specializing solely in plastifused fabric wall coverings for the institutional field.*

You asked for it—and now it's here! May we send you further details via the coupon below?

*Use both!

For interior walls exposed to average wear, FABRON is *still* the most decorative and economical wall treatment available. PERMON was developed especially for areas subjected to *heavier than average* abuse: lower sections of corridor walls, service rooms, etc.

You'll want to use both together . . . for the colors of both are coordinated to produce combinations in perfect harmony—with PERMON for the wainscot and FABRON for the upper wall.

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The institutional field's only specialists in plastifused fabric wall coverings.

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Please send me complete information about PERMON

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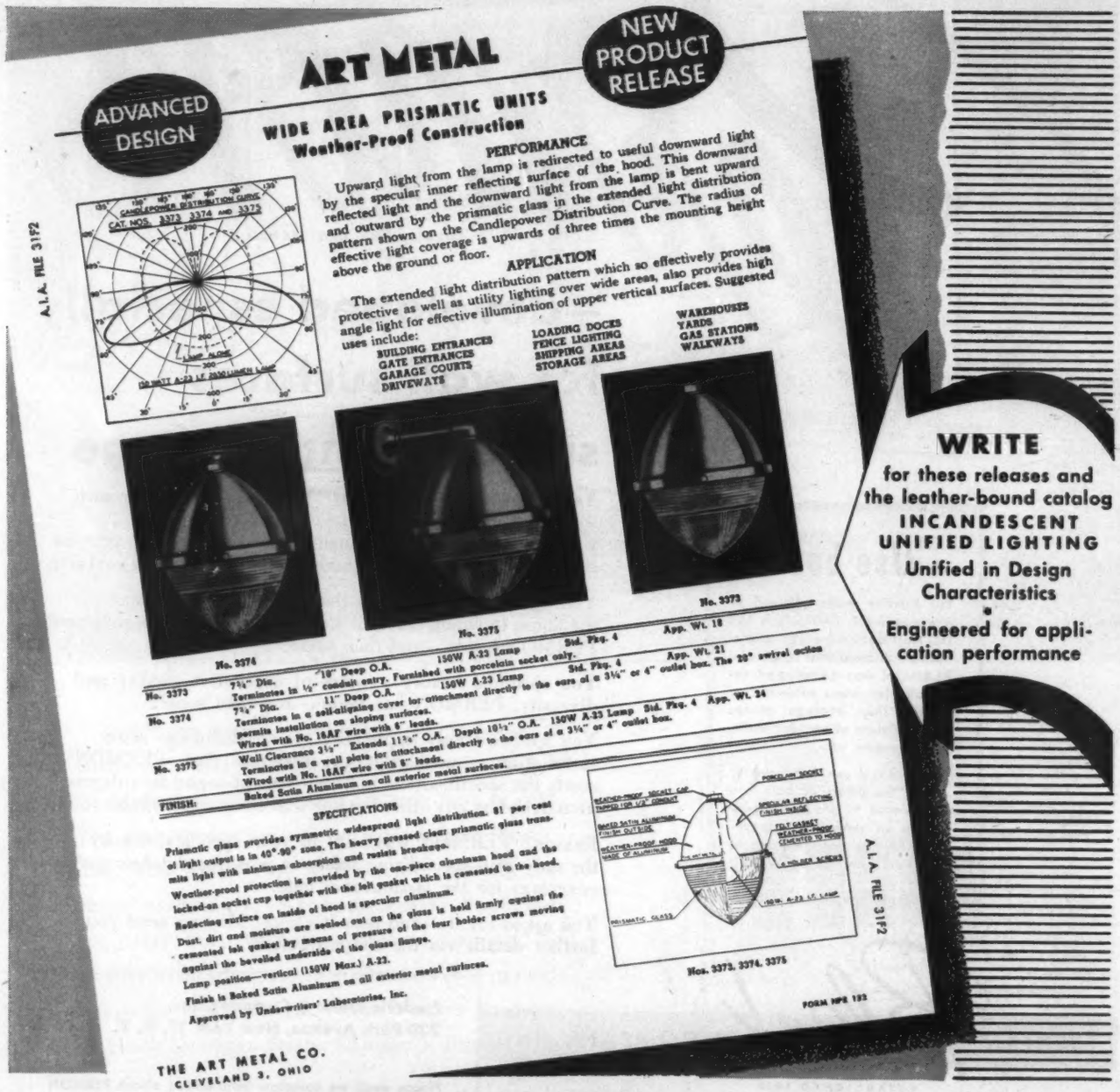
Just fill in, clip to your letterhead and mail

ART METAL releases the FIRST of its NEW ideas in INCANDESCENT LIGHTING


ART METAL
NEW PRODUCT RELEASE
ADVANCED DESIGN
WIDE AREA PRISMATIC UNITS
Weather-Proof Construction
PERFORMANCE
Upward light from the lamp is redirected to useful downward light by the specular inner reflecting surface of the hood. This downward reflected light and the downward light from the lamp is bent upward and outward by the prismatic glass in the extended light distribution pattern shown on the Candlepower Distribution Curve. The radius of effective light coverage is upwards of three times the mounting height above the ground or floor.
APPLICATION
The extended light distribution pattern which so effectively provides protective as well as utility lighting over wide areas, also provides high angle light for effective illumination of upper vertical surfaces. Suggested uses include:
BUILDING ENTRANCES
GATE ENTRANCES
GARAGE COURTS
DRIVEWAYS
LOADING DOCKS
FENCE LIGHTING
SHIPPING AREAS
STORAGE AREAS
WAREHOUSES
YARDS
GAS STATIONS
WALKWAYS
CANDLEPOWER DISTRIBUTION CURVE
CAT. NOS. 3373 3374 AND 3375
150 WATT A-23 LT. 2800 LUMEN LAMP
A.I.A. FILE 31F2
No. 3376
No. 3375
No. 3373
No. 3373 7¼" Dia. "10" Deep O.A. 150W A-23 Lamp Std. Pkg. 4 App. Wt. 18
Terminates in ½" conduit entry. Furnished with porcelain socket only.
No. 3374 7¼" Dia. 11" Deep O.A. 150W A-23 Lamp Std. Pkg. 4 App. Wt. 21
Terminates in a self-aligning cover for attachment directly to the ears of a 3¼" or 4" outlet box. The 28° swivel action permits installation on sloping surfaces.
Wired with No. 16AF wire with 6" leads.
No. 3375 Wall Clearance 3½" Extends 11¾" O.A. Depth 10½" O.A. 150W A-23 Lamp Std. Pkg. 4 App. Wt. 24
Terminates in a wall plate for attachment directly to the ears of a 3¼" or 4" outlet box.
Wired with No. 16AF wire with 8" leads.
FINISH: Baked Satin Aluminum on all exterior metal surfaces.
SPECIFICATIONS
Prismatic glass provides symmetric widespread light distribution. 81 per cent of light output is in 40°-90° zone. The heavy pressed clear prismatic glass transmits light with minimum absorption and resists breakage.
Weather-proof protection is provided by the one-piece aluminum hood and the locked-on socket cup together with the felt gasket which is cemented to the hood.
Reflecting surface on inside of hood is specular aluminum.
Dust, dirt and moisture are sealed out as the glass is held firmly against the cemented felt gasket by means of pressure of the four holder screws moving against the beveled underside of the glass flange.
Lamp position—vertical (150W Max.) A-23.
Finish is Baked Satin Aluminum on all exterior metal surfaces.
Approved by Underwriters' Laboratories, Inc.
WEATHER-PROOF SOCKET CUP TAPPED FOR ½" CONDUIT
BAKED SATIN ALUMINUM FINISH OUTSIDE
WEATHER-PROOF HOOD MADE OF ALUMINUM
PORCELAIN SOCKET
SPECULAR REFLECTING FINISH INSIDE
FELT GASKET WEATHER-PROOF CEMENTED TO HOOD
4 HOLDER SCREWS
PRISMATIC GLASS
150 W. A-23 LT. LAMP
Nos. 3373, 3374, 3375
A.I.A. FILE 31F2
FORM MPE 193
THE ART METAL CO.
CLEVELAND 3, OHIO
WRITE
for these releases and the leather-bound catalog
INCANDESCENT UNIFIED LIGHTING
Unified in Design Characteristics
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Engineered for application performance

THE ART METAL COMPANY

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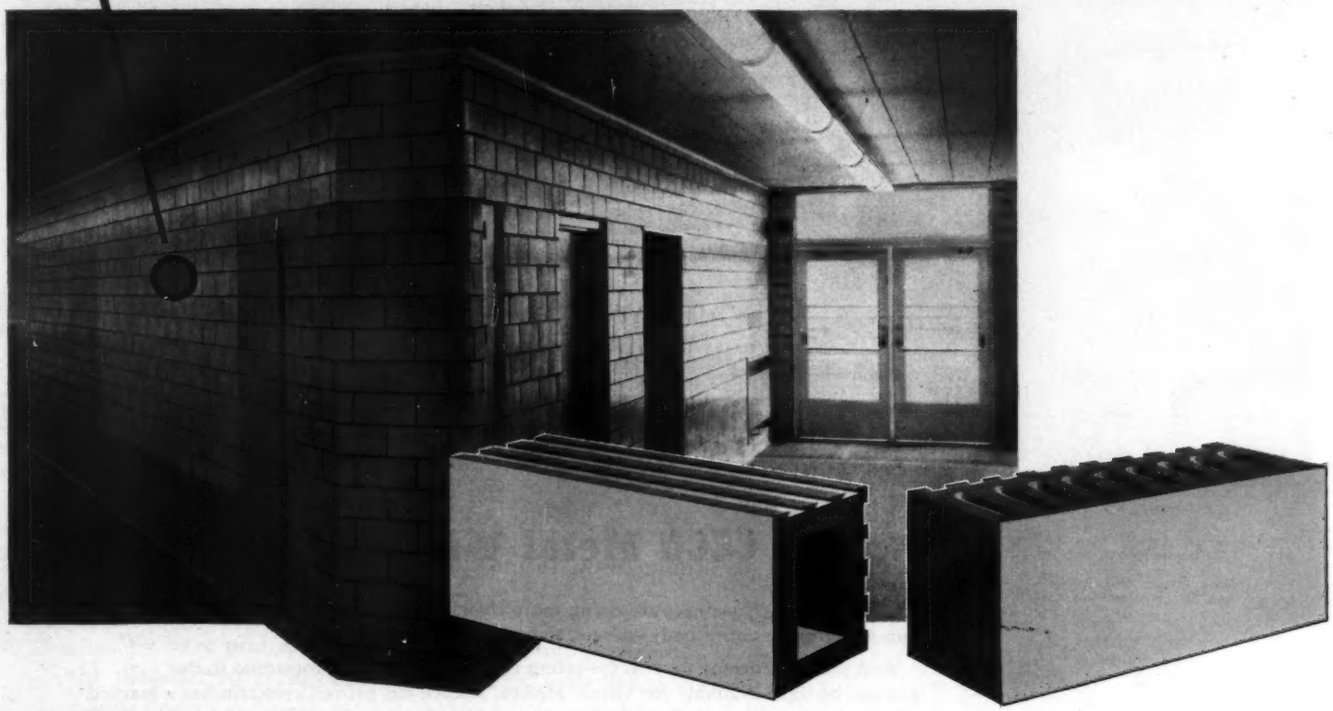
Manufacturers of Engineered Incandescent Lighting

Available!

through increased production

FACING TILE



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- It's load-bearing
- It's a wall and finish in one
- First cost is last cost
- It's "Color-engineered"
- It saves critical steel

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FACING TILE gives you MORE FOR YOUR DOLLAR than any other single building material.

Increased production makes it possible to meet present demands for Facing Tile for all types of permissible building.

Orders placed now will receive prompt scheduling and delivery as needed.

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It is your assurance of highest quality FACING TILE

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Pittsburgh 22, Pennsylvania

ROBINSON BRICK & TILE CO.
Denver 9, Colorado

STARK CERAMICS, INC.
Canton 1, Ohio

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Charleston 24, West Virginia

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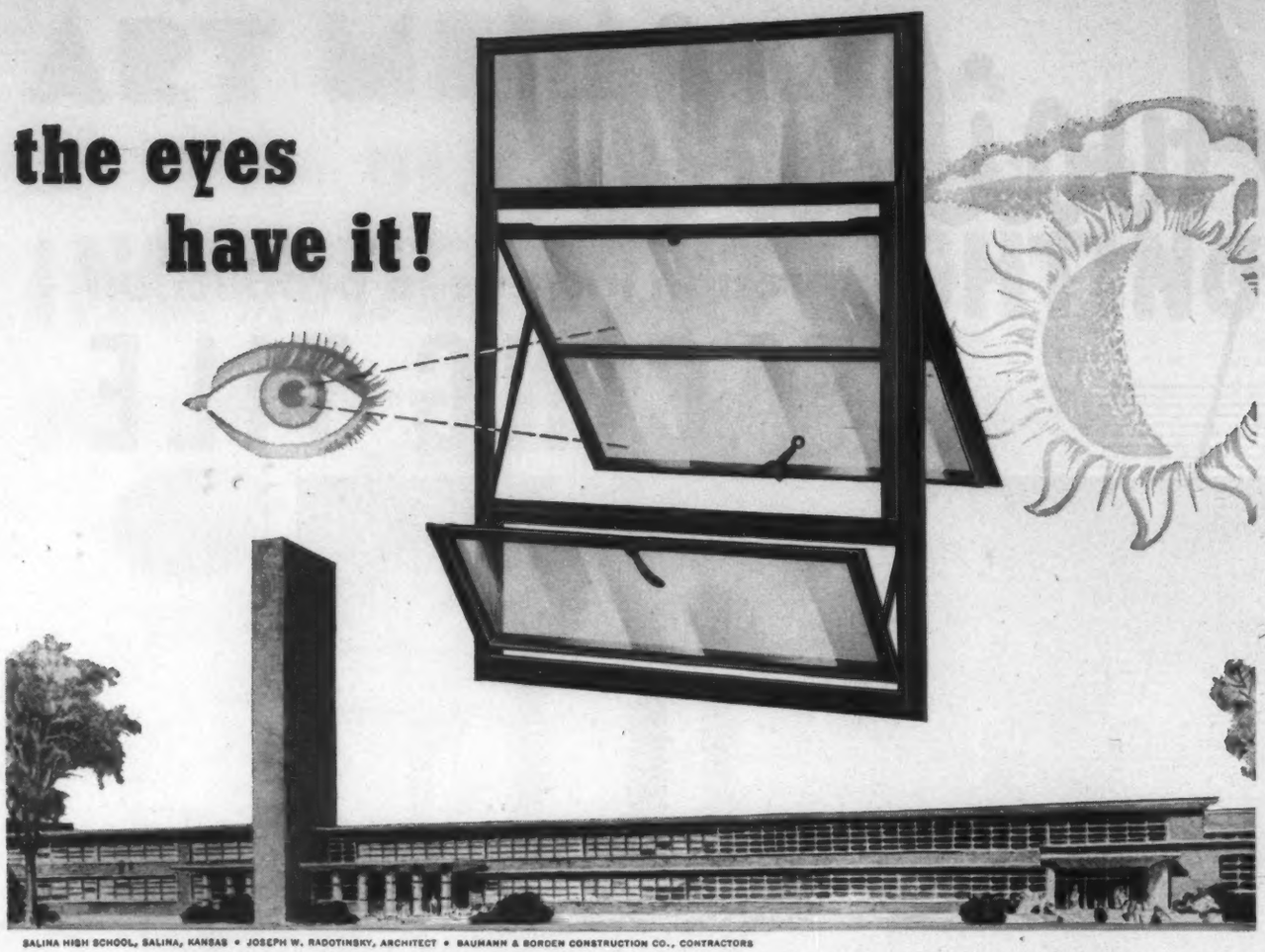
the eyes have it!



SALINA HIGH SCHOOL, SALINA, KANSAS • JOSEPH W. RADOTINSKY, ARCHITECT • BAUMANN & BORDEN CONSTRUCTION CO., CONTRACTORS

...with CECO Metal Windows for Schools

As you read this your eyes are doing more than seeing—they are bringing into action your entire body—nerves, muscles, circulation.

And you are burning up energy—piling up fatigue in direct proportion to the amount of light available for vision. Medical science has proved eyestrain has a marked effect on the well-being of all. So it's necessary then that seeing be done with ease and in comfort. That's why proper illumination is all-important and there's where metal windows come in, for they admit more daylight than any other window.

Add to that fact, most days in most of the country are overcast in winter. Here again metal windows meet the need because only metal windows provide enough daylight for good vision on overcast days.

So there's good reason for the swing to Ceco Metal Windows in modern school construction. Besides giving more light for better sight, they permit distant vision so vital for relaxing young minds.

There are other advantages in Ceco Metal Windows—such as controlled ventilation—won't rot or warp—cost less to install, clean and maintain. And because Ceco Windows are better engineered they fit better—last longer. That's why we say—"When you use Ceco Windows you know you use the very best—you're sure of savings, too."

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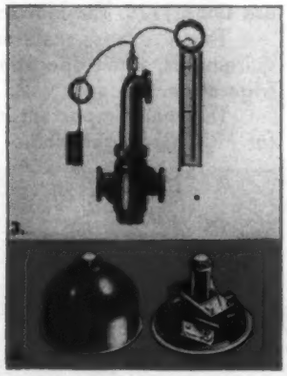
Smith's Tourist Court, R.F.D., Lynchburg, Va.
Van Winkle Motel, Everett, Washington
Snyder's Court, North Bend, Washington
Leonard Auto Court, Parkland, Washington



3. The heart of the Sarcotherm control system for radiant or forced hot water heating is this unique control valve. It is actuated by liquid expansion thermostats, one located outside the building and one in the valve itself. Between them they anticipate changes in heat loss ratio, thus maintaining comfort temperatures under all conditions.
4. The Sarcotherm Comfort Control "Thermoray" is an extremely sensitive thermostat affected by both radiation and convection.

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Ask for Kit 361.

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SLATEBESTOS—first of its kind. Fire resistant, damp-proof cement asbestos base. Permanent—won't expand or "explode." Easy installation.

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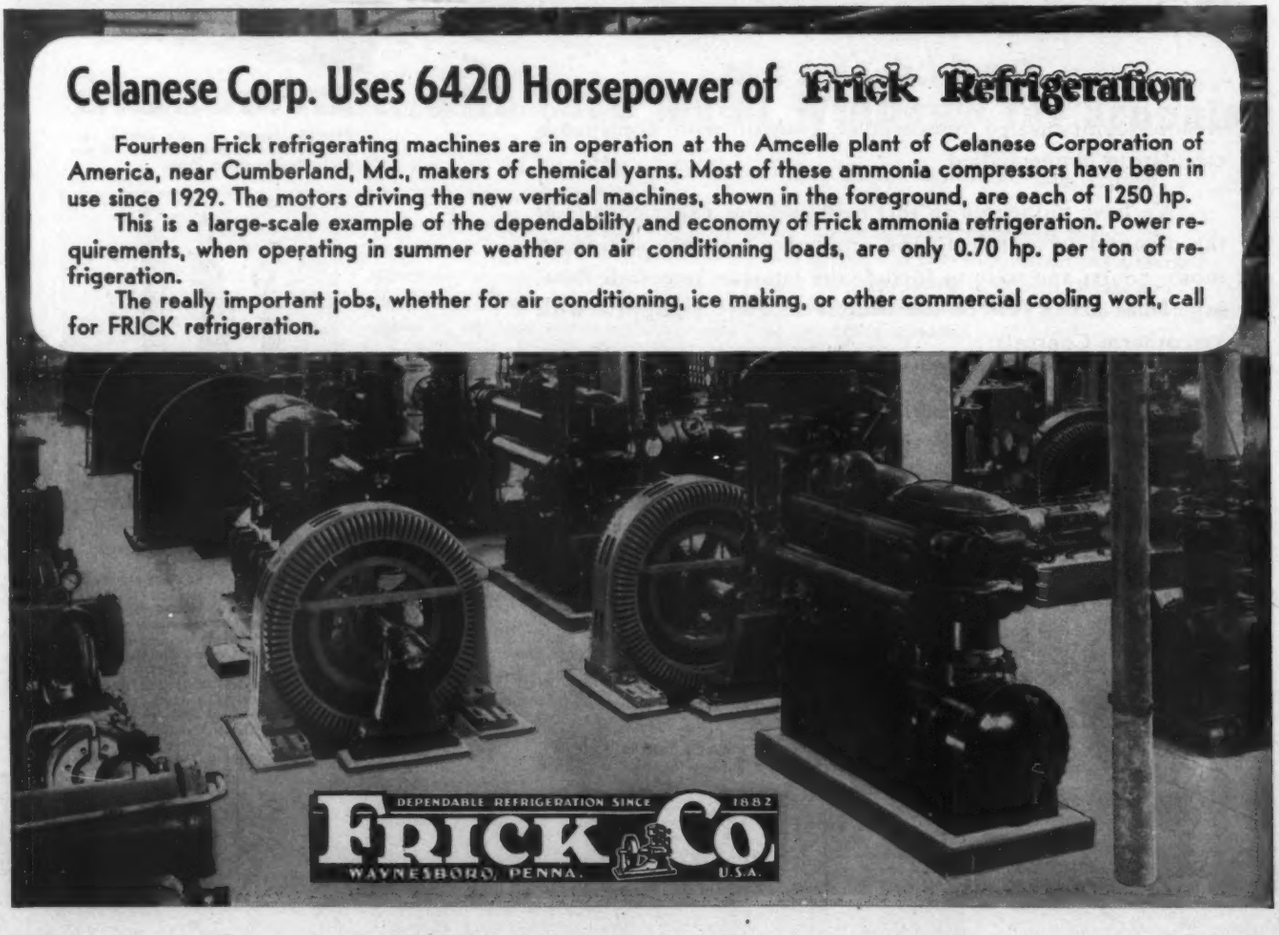
This is a large-scale example of the dependability and economy of Frick ammonia refrigeration. Power requirements, when operating in summer weather on air conditioning loads, are only 0.70 hp. per ton of refrigeration.

The really important jobs, whether for air conditioning, ice making, or other commercial cooling work, call for FRICK refrigeration.



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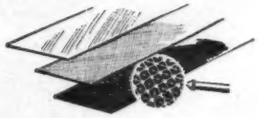

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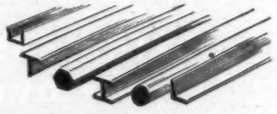

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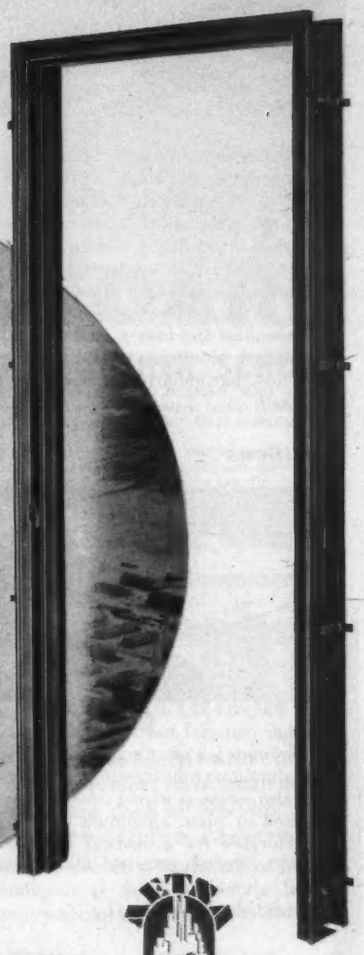

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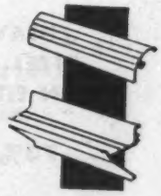

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A *lesson* FROM SEARS ROEBUCK

What Sears Roebuck's catalog does for many a farmer, "Ruberoid Bonded Built-Up Roofs and Flashings" does for architects and builders. It's a complete reference catalog that simplifies selecting and applying *the right roof every time.*

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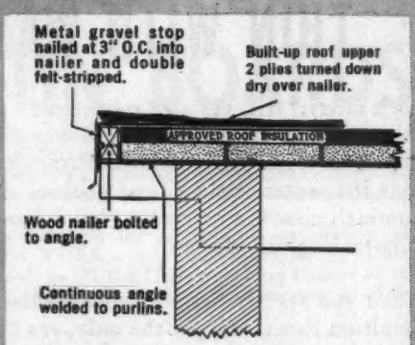
Metal gravel stop nailed at 3" O.C. into nailer and double felt-stripped.
Built-up roof upper 2 plies turned down dry over nailer.
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Wood nailer bolted to angle.
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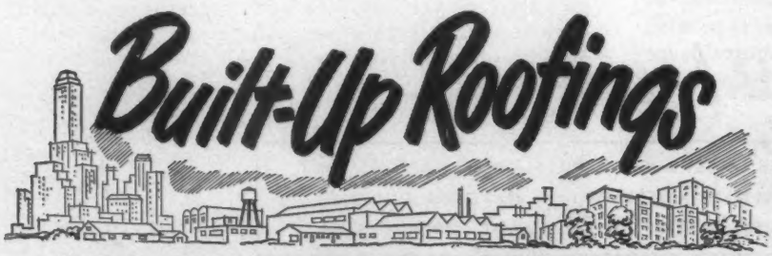

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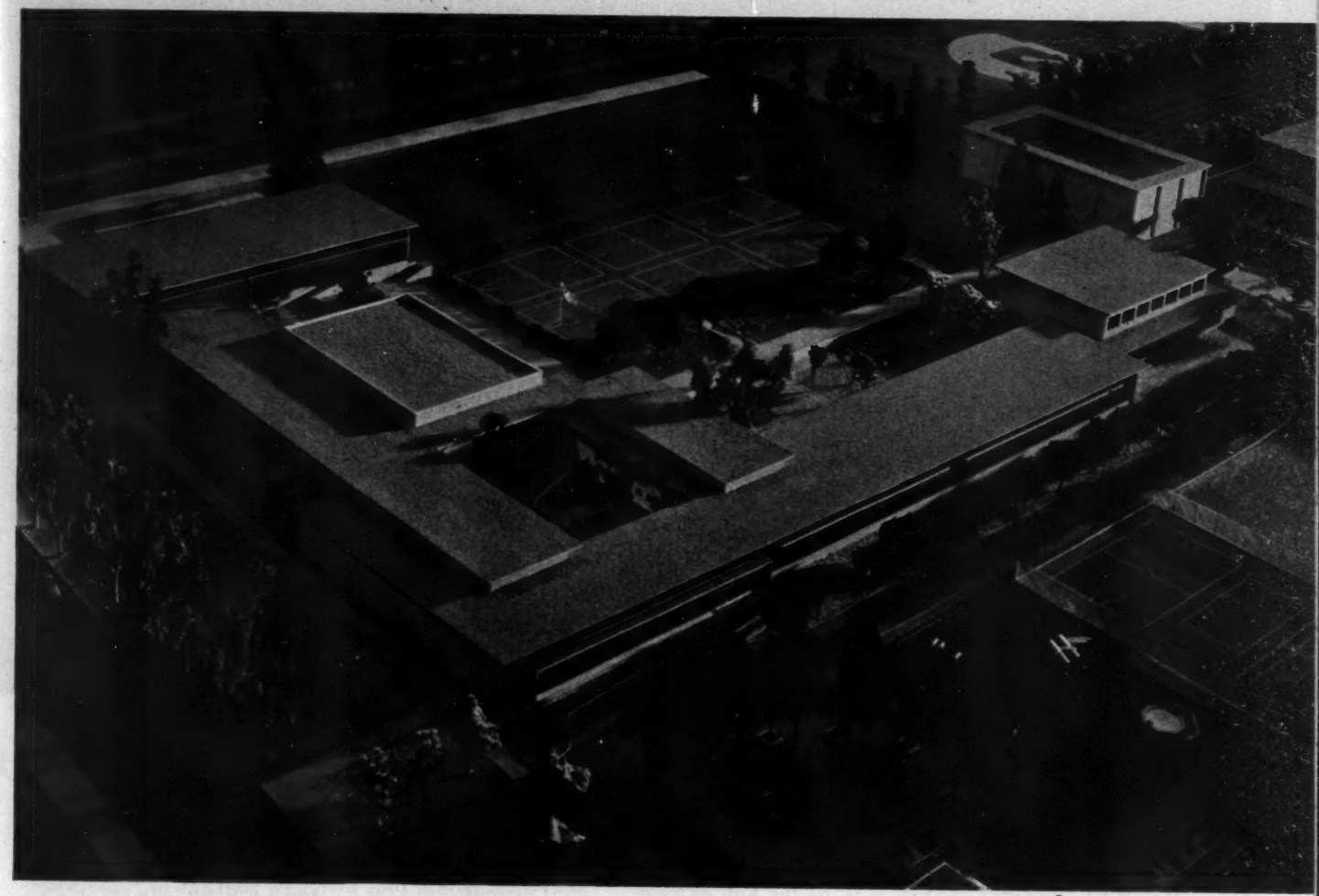
SUNSET COMMUNITY CENTER, SAN FRANCISCO
FORTY-THREE ACRES COOPERATIVELY PLANNED



Junior High School; model photo by Ernest Braun

Cooperating San Francisco Agencies:

Board of Education

Recreation & Park Department

Department of Public Health

Department of Public Works

Bureau of Architecture

City Planning Department

Art Commission

Architects, Engineers, Consultants:

Wurster, Bernardi & Emmons,
Coordinating & Master Plan Architects
Punnet, Parez & Hutchinson, Civil Engineers
Thomas D. Church, Landscape Architect
Stone & Mulloy, Architects,
Elementary School
Thomsen & Wilson, Architects,
Junior High School
Wurster, Bernardi & Emmons, Architects,
Senior High School, Swimming Pool, Stadium
William G. Merchant, Architect,
Recreation Building & Center
Dodge A. Riedy, Architect,
Health Building
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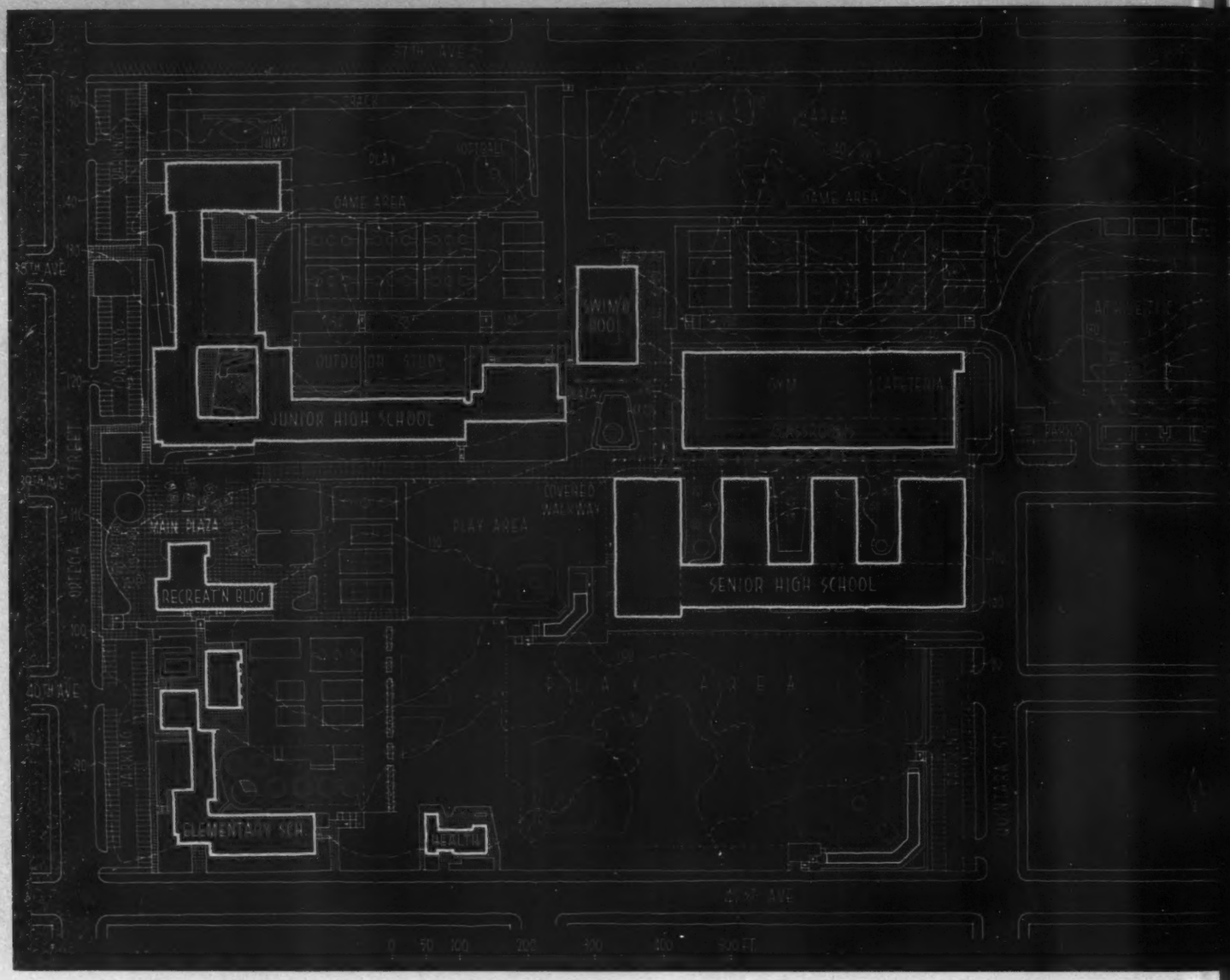


SUNSET COMMUNITY CENTER, SAN FRANCISCO, CALIF

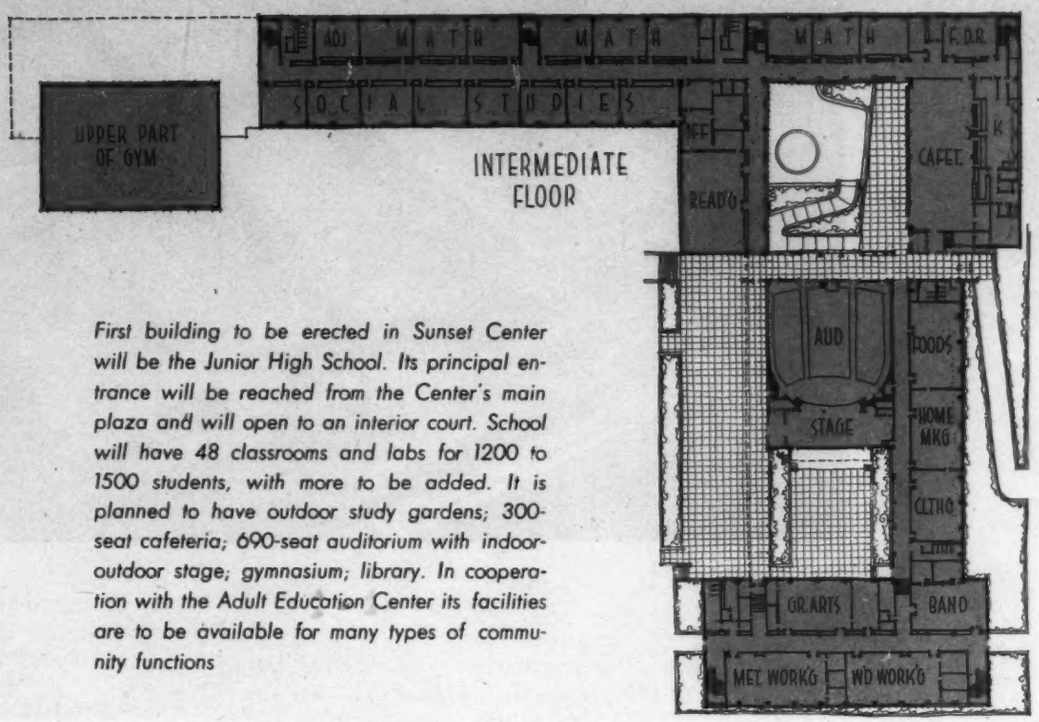
Wurster, Bernardi & Emmons, Coordinating Architects

SUNSET COMMUNITY CENTER is to be the hub of local activities in San Francisco's growing Sunset district. This residential area, west of Mt. Sutro and south of Golden Gate Park, is expected to attain a population of 17,500 per square mile, which will mean nearly 50,000 within a mile of the Center. The ultimate need for a focal point in the sandy, duned district was foreseen by D. H. Burnham in 1905, in his plan for the city. Now the 10-block, 43-acre site is being graded. A junior high school is scheduled for starting immediately. An elementary school will follow; drawings are ready for a recreation center and a health building; preliminaries for a high school, gymnasium, swimming pool and stadium have been prepared. Full development will probably take most of a decade. The total cost is estimated at about $12¼ million.

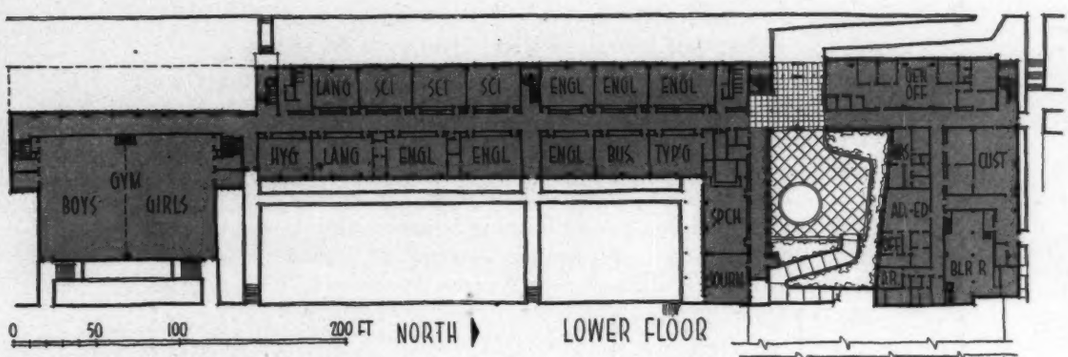
The scheme has changed several times since Burnham's day. The plan now being realized is essentially that presented in 1945 by Glenn Hall of San Francisco's Planning Commission and furthered by the then Planning Director, L. Deming Tilton, and his successors. Bringing it to its present stage has not been easy: definition of purpose, allocation of authority and responsibility, problems of site acquisition and development, and the need to coordinate without unduly hampering the several architects, have all been complex matters. The Center is to offer facilities for education, health and recreation for all age groups, as a means of establishing and maintaining high local standards; it is at once a social, cultural and economic venture. It has required the cooperation of several city agencies, among which expenses are being apportioned according to land occupancy and building costs.* The rolling land drops about 80 ft from highest to lowest points; across it blows a strong northwest breeze. To break the wind the site is graded to three main levels, and most of the

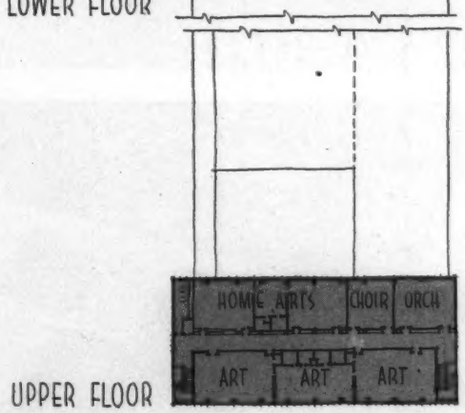
A. P. GIANNINI JUNIOR HIGH SCHOOL

Thomsen & Wilson, Architects



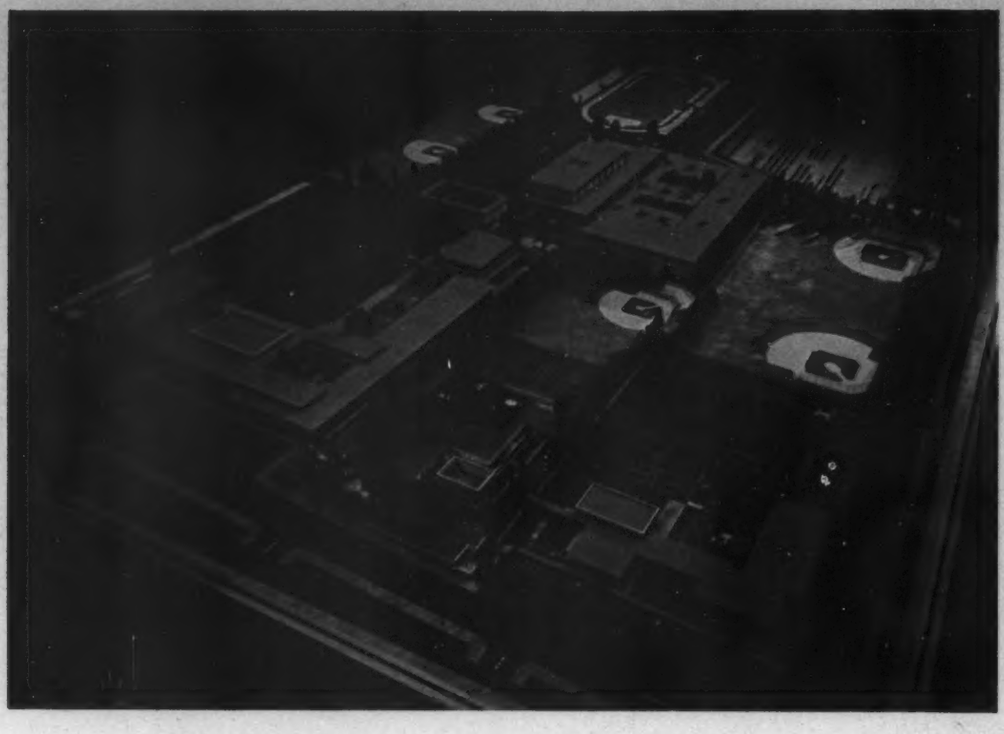
First building to be erected in Sunset Center will be the Junior High School. Its principal entrance will be reached from the Center's main plaza and will open to an interior court. School will have 48 classrooms and labs for 1200 to 1500 students, with more to be added. It is planned to have outdoor study gardens; 300-seat cafeteria; 690-seat auditorium with indoor-outdoor stage; gymnasium; library. In cooperation with the Adult Education Center its facilities are to be available for many types of community functions





buildings are designed to form a series of interior courts and open areas. These will have the multiple effect of trapping sun, creating human scale, and — in conjunction with the peripheral placement of buildings — providing both easy accessibility and freedom from traffic hazards. The whole is to be lively and vital. From the brightly lit community plaza off Ortega St. a paved, lighted walkway will lead to 39th Ave. To preserve individuality each architect is to determine structural system, fenestration and range of color for his portion of the job. To achieve necessary unity all buildings are to be concrete, with composition roofs and overhanging eaves. The Coordinating Architects have developed preliminaries for the high school and other units only far enough to insure harmony. It has been suggested that they have design supervision also over street furniture: lighting and light standards, benches, telephone booths, news stands, and the like.

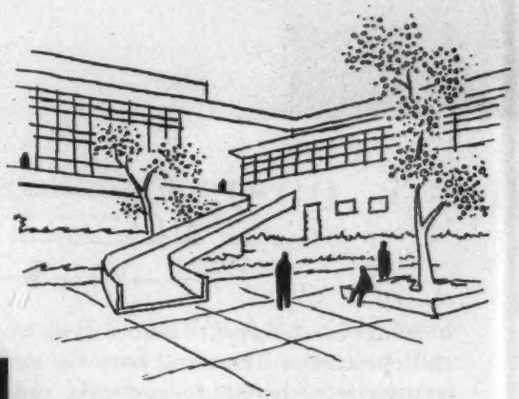
** A few years ago the Library Commission withdrew from the group of cooperating agencies — the only San Francisco agency to do so.*



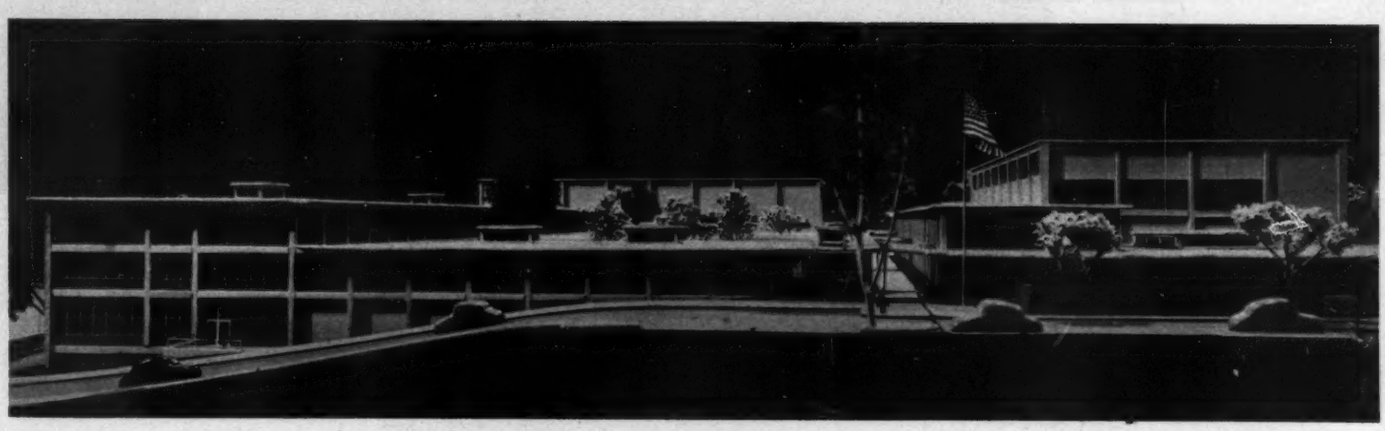
SUNSET COMMUNITY CENTER

JUNIOR HIGH SCHOOL

SUNSET CENTER'S topography (see photo above) affected design of the Junior High School. Though entered from the Center's Main Plaza midway down Ortega St., the principal floor level of the school is a story higher. To connect the two levels the interior court (sketch, right) and its ramps were developed. In the court, next to the cafeteria, is an outdoor dining terrace. The building is to be concrete, cement plastered on the exterior. Main entrance is to be metal and glass, other entrances wood and glass, fenestration wood awning type on 4-ft modules. Heat will be furnished by low-pressure, combination gas-oil burning boilers with convectors in classrooms, unit heaters in shop and gymnasium. This school will occupy 8.8 acres. Its estimated cost is $3,800,000.00.



Ernest Braun

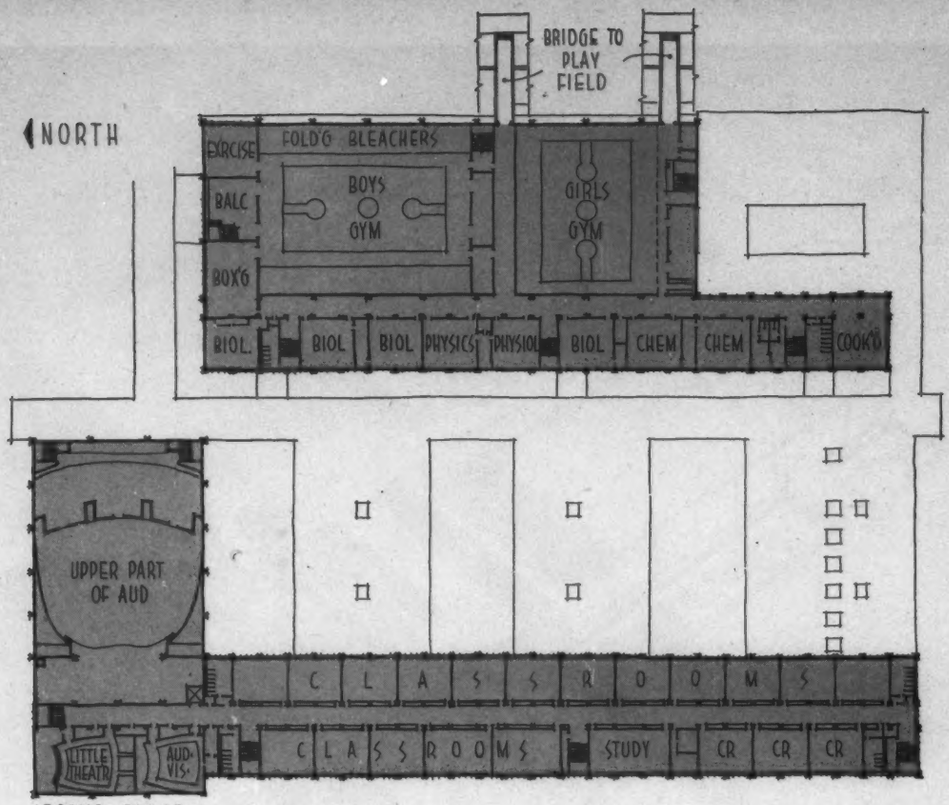


SUNSET COMMUNITY CENTER: SENIOR HIGH SCHOOL

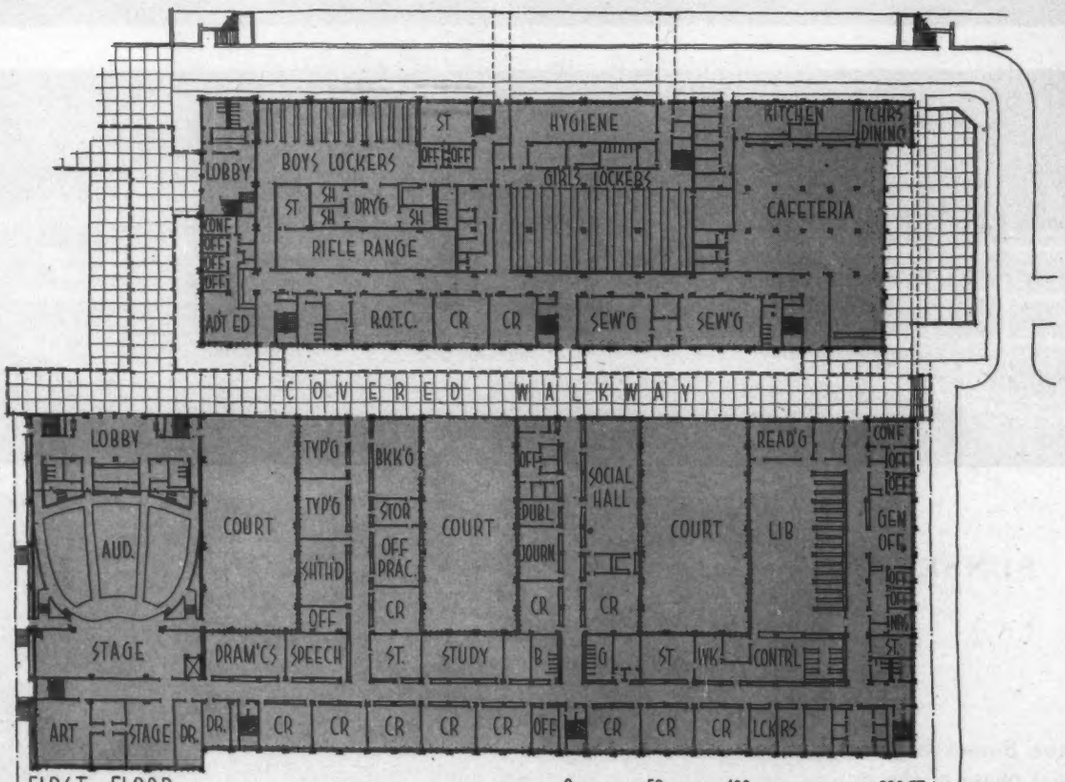
Wurster, Bernardi & Emmons, Architects

CONSTRUCTION of the Sunset Senior High School is scheduled for the final phase of the project, some five to ten years hence. Consequently the plans are in a rough preliminary stage, with a great deal of work remaining to be done on details. Enough has been done to determine the amount of space required for classrooms, laboratories and the other facilities needed in a secondary school for 1200 students. This was necessary to permit economical development of the entire project.

The high school proper consists of two buildings: one, a classroom unit three stories high on the west side and two on the east where the finish grade is higher; and two, a gymnasium-cafeteria building around which are wrapped two floors of additional classrooms. Between the buildings runs the walkway leading from Sunset Center's Main Plaza to 39th Avenue. For plans and further details of the high school buildings see the following pages.



SECOND FLOOR



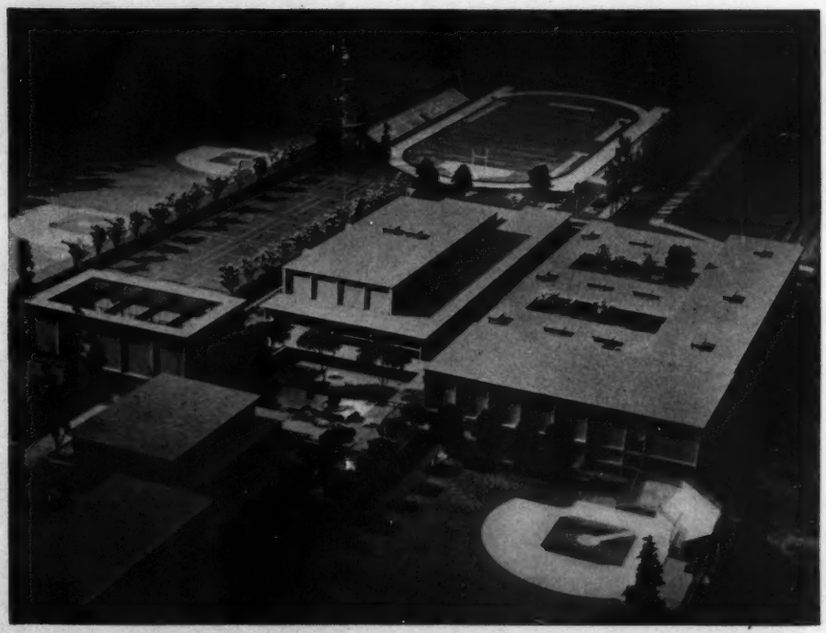
FIRST FLOOR

0 50 100 200 FT.

BASEMENT

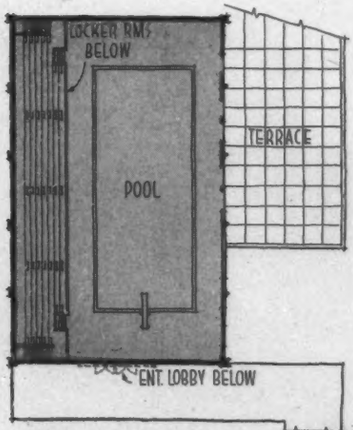
Ernest Braun

Sunset Community Center Senior High School's two main buildings will have the same composition roofs, eave overhangs and concrete construction established for other buildings on the site. Photo at right also shows the Athletic Stadium which will occupy the extreme south end of the Center's 43 acres; all told, the high school plant requires 19.4 acres. Construction proposed for the high school employs a reinforced concrete frame and floor system with exterior columns on the outer face of the building and curtain walls flush on the interior. The curtain walls are to consist of strip windows and precast, colored filler panels. This is consonant with the use of color throughout the project as a means of obtaining unity. Cost of high school buildings and stadium is estimated at $5,000,000.00

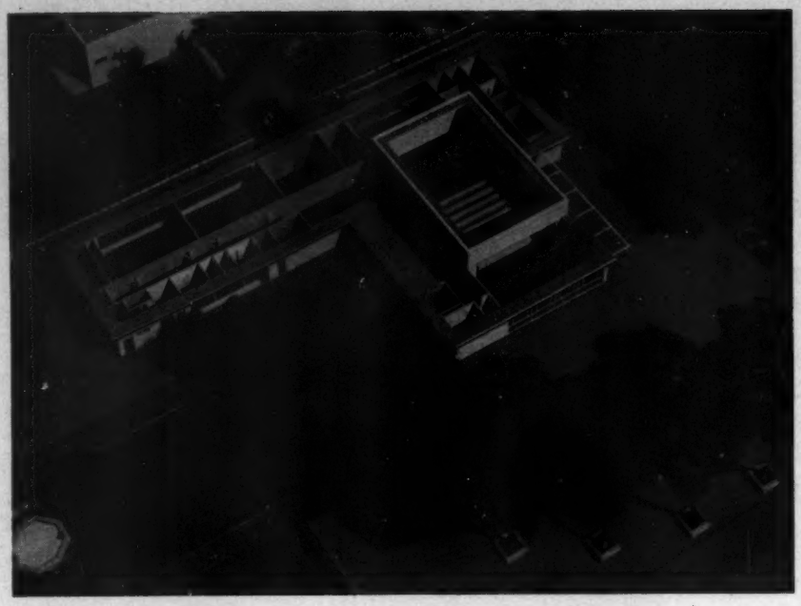


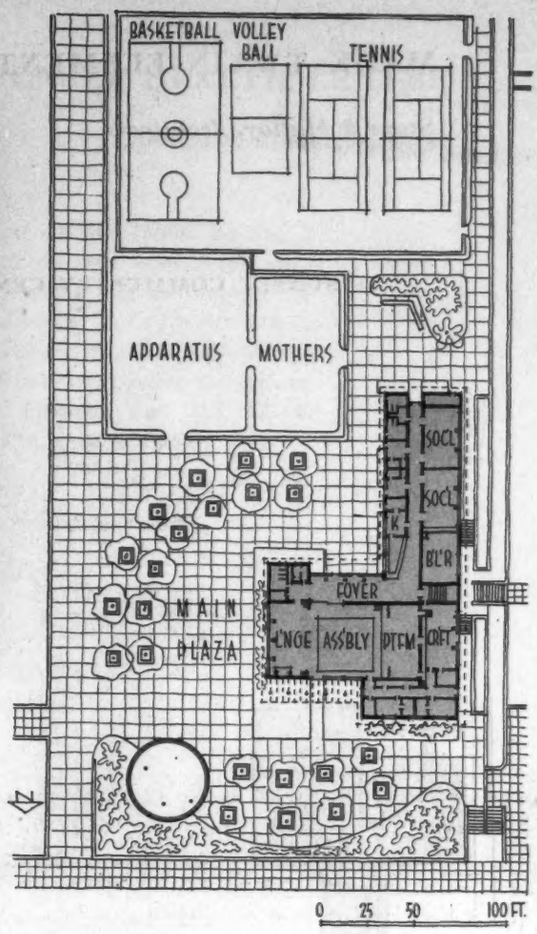
Ernest Braun

Sunset Community Center's Swimming Pool Building (above and right) has also been carried only to the rough preliminary stage of design by Wurster, Bernardi & Emmons. Its design is like that of the other high school buildings: exposed concrete frame with curtain walls set flush on interior. Expected to cost $300,000.00,



the building is to be situated between the junior and senior high gymnasiums. On the entire high school portion of the Center, preliminary structural engineering was done by A. V. Saph, Jr., and mechanical engineering by Garthorne, Buonacorsi & Murray



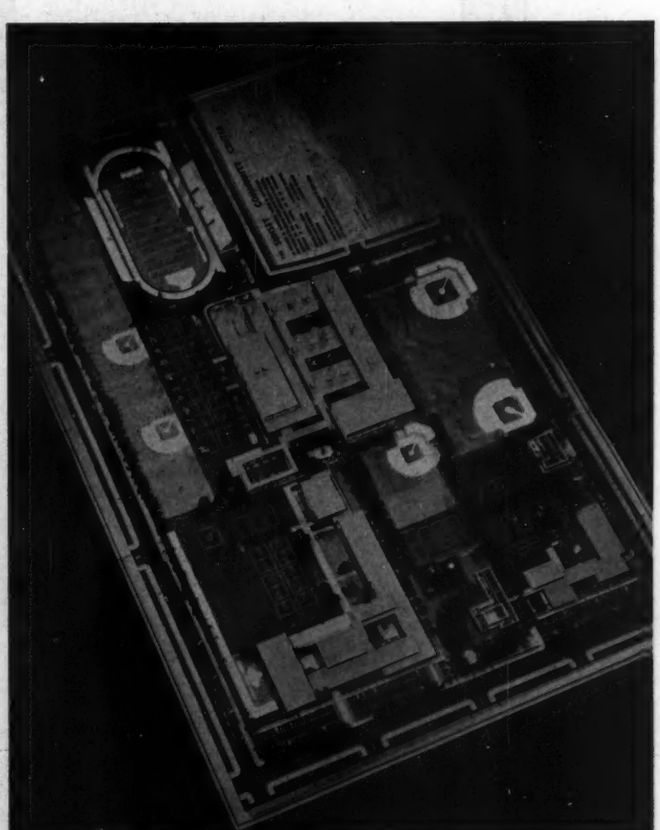


SUNSET RECREATION CENTER

William G. Merchant, Architect

OFFICIALLY called the West Sunset Recreation Center, this unit in the Community Center will occupy 9.77 acres east of the elementary school (bottom right, adjoining bird's eye view of model). Its 150-seat assembly room is to be used both by adults and by students from the elementary school, to which a covered walk leads. Construction of the $750,000.00 concrete building is to start as soon as regulations permit.

Since 1945, San Francisco's Art Commission has actively promoted and guided its development. At one time the project, all but abandoned, was saved by efforts of the city's present Director of Planning, Paul Opperman, and the Art Commission's Committee on Architecture. Recently it has passed upon design of the various buildings. With final schemes approved, the Chairman of the Commission's Committee on Civic Design, architect Francis Joseph McCarthy, presented a review and report citing many San Francisco individuals and agencies concerned with the Center's progress, including Jack Kent, former Planning Director; Ernest Born, architect member of the Art Commission; Superintendent of Schools, Dr. Herbert C. Clish; Thomas Brooks, Chief Administrative Officer, Department of Public Works; Harvey Teller, former Director, Recreation and Park Department; and the numerous designers and municipal agencies mentioned elsewhere in this issue.

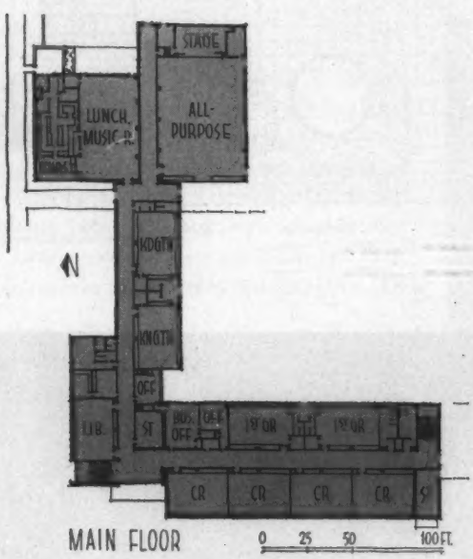


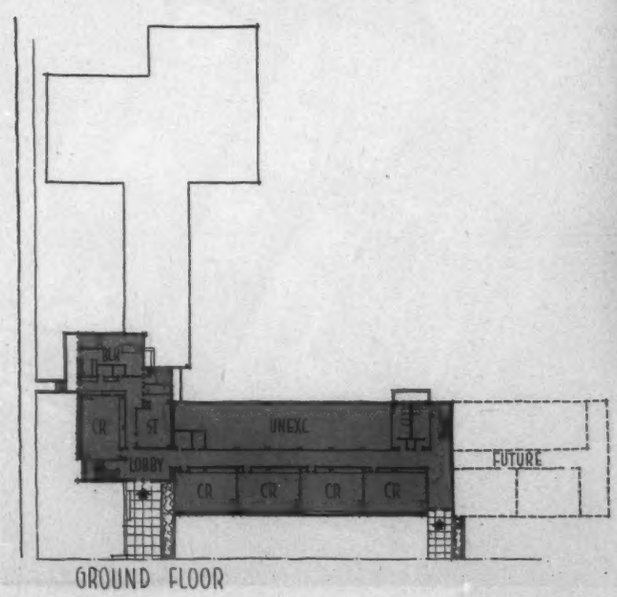
MARK TWAIN ELEMENTARY SCHOOL

Stone & Mulloy, Architects

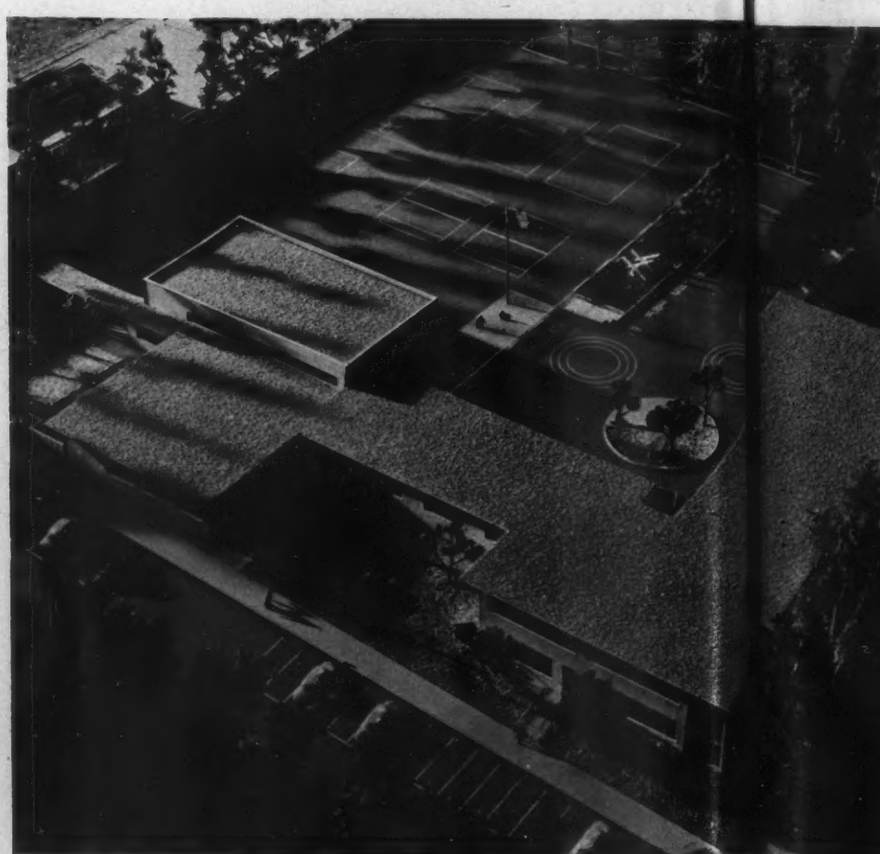
SUNSET COMMUNITY CENTER

SIMILAR, again, to Sunset Center's other principal buildings, the Elementary School is a concrete building with overhanging roofs. However, it has individual windows with projected wood sash rather than the continuous strip windows of the Junior and Senior High Schools. In addition to approving over-all and individual building design, the San Francisco Art Commission has made such helpfully constructive comments as: "In both Elementary and Junior High Schools, parapets at roofs of gymnasium and multi-purpose room might better become overhangs like other roofs. Patterns of trees and planting might be improved, particularly to break up long paved areas. When actual colors are selected, the proposed gray of the concrete might be warmed up." These and numerous other suggestions indicate a continuing intent to make the ultimate Center live up fully to the possibilities now envisioned.





Ernest Braun

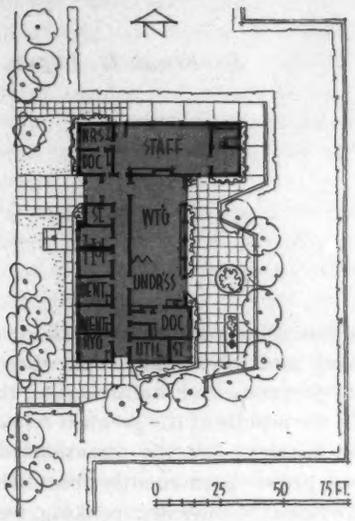


Construction of Elementary School is scheduled to follow Junior High School in another year or so. Estimated cost: $1,200,000. Structural engineer: William Adrian. Mechanical Engineers: Garthorne, Buonacorsi & Murray

SUNSET HEALTH CENTER

Dodge A. Riedy, Architect

Sunset Center's Health Building is to be the only wood frame structure; exterior will be integrally colored stucco. To be built as soon as regulations permit, it will house a well-baby clinic, public health nurse, etc. Estimated cost: $100,000.00; land occupied: 0.4 acre



SCHOOLS

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 184

SOME TRENDS IN SCHOOL DESIGN

By Frank G. Lopez, A.I.A.

CERTAIN trends in school design are evident; one sees them forming and interacting everywhere in the country. Despite governmental limitations on the use of metals, we are in the middle of the greatest school building boom in our history. Are the directions design is taking likely to prove permanently beneficial? Are deficiencies also evident? Generally speaking, we believe the answer to both questions to be yes. There are heartening signs, and though many an exploratory concept may eventually prove to have been sterile, the shortcomings which even the best of our work may exhibit are being overcome as our knowledge and capacity are increasingly applied.

I: Cooperation in School Planning

For one thing, it is generally accepted today that school design is a cooperative venture. At the least, an architect of a school can seldom get built his perfect solution of a community's needs; he must modify his ideal, taking into account the notions of the laymen who are empowering him to proceed — and today those notions are more likely to be solidly based than was the case twenty years ago. The member of a school board or building committee is better informed today; there are magazines and books and consultants and experts to keep the committee member abreast of educational and structural developments. Of course some of these are sources of misinformation, too; that can be expected when ideas and action follow each other as rapidly as they now do. There is little time for judicious weighing of merits. Yet the architect must have time to ponder. In his hands is much more than the expenditure of taxpayers' money; the designer of a school is to a greater degree than we commonly realize a molder of coming generations, a shaper of the future physical and cultural status of our nation.

Because ours is a democratic culture, cooperation of many kinds is both possible and desirable in designing and building schools. I do not mean compromise; I mean a pooling of the knowledges and capacities possessed by many individuals and agencies in order to produce the best buildings we can for our times. Nor do I mean that the architect, in cooperating, surrenders his function to become merely a catalyst, or a sort of grease in the gear case of progress. The cooperative process unearths an array of facts which are the basis for design. Without them, a school can be well designed only by accident. Conversely, without the prime architectural function, design, no set of facts can miraculously produce a school.

The school survey is one means of obtaining the necessary facts. It takes a multiplicity of forms. Your New England architect, dealing locally with perhaps the shrewdest, most skeptical group of individualists we have, may be forced to de-emphasize the formal survey (though many exhaustive surveys have been made there) and gain his sets of facts principally through intimate personal knowledge of local customs, preferences, trends — and pocketbooks. The professional educational consultant and services available from schools of education in our universities are well known. Occasionally the consultant, excessively zealous, oversteps his bounds to dictate building forms and even architectural design. Years ago, when few architects knew what educators were talking about, there was justification for such zeal. Nowadays things are different; many school architects have caught up to their opposite numbers in the field of education. Some have, in a manner, surpassed them; there are architects thoroughly competent to conduct complete educational surveys themselves, and a number do. They find the service they render fully appreciated. It is also expen-

sive to the architects who do it. John Hunter, of the firm of Hunter, Caldwell & Campbell, Altoona, Pa., architects with several million dollars' worth of schools on the boards, recently suggested informally that an ideal school survey group would consist of an architect well versed in schools, an educator familiar with architectural problems, and possibly a competent layman from the locality under survey — each with his function clearly defined. That, he believes, would permit true cooperation.

Another type of cooperation exists when a school is used for community purposes. Once considered a way to justify the very great cost of the modern school plant, the practice today is fairly common. Such cooperation, like any other kind, requires imagination, hard work, and knowledge of human nature. There was the Massachusetts architect who persuaded the town fathers not to rebuild their burnt-out town hall, but instead to replace their outmoded school buildings and, in the new structure, to incorporate the modest town offices really needed. There is the magnificent instance of the Sunset Community Center in San Francisco, reported elsewhere in this issue, whose 10-block, 43-acre urban site is being developed jointly by many municipal agencies and several architects. A similar though less comprehensive project has been in progress in Seattle. Particularly in times of high construction costs and materials limitations, this kind of cooperative venture can gain for a city facilities of a quality it might not otherwise obtain.

II: The High School Problem

There are a few instances of research into secondary school building design problems, but these are mostly isolated efforts, seldom coordinated. Everybody realizes how acute the school problem as a whole is; but we have been preoccupied with elementary schools. The recent rise in the national birth rate, of course, is felt there first. In most localities the need at that level is expected to remain acute for a number of years. At the same time, the first-grader of two years ago will be in secondary school in another four to six years. Eight years hence, or at the most ten, all our communities will be howling for high schools, and then groaning at having to pay for them. Indeed, in areas where the population age-level has been advancing, for instance agricultural, mining and other stabilized regions where labor is physical and wages are low, new high schools are equalling if not outnumbering elementary schools.

Research on secondary schools is difficult. Their problems are less standardized than the elementary school's; there are more types. The high school may be junior, senior, or both; it may be a four-year type. It may develop into a junior college. It may have a specialized vocational curriculum or provide pre-collegiate training or one of the many variants of either — or both. Usually it is bigger than the elementary school, costs more to build, operate and maintain, and requires a larger site and greater expenditure for site development. Yet, tough as the problems are, if we do not tackle them more thoroughly soon we will be wasting a deal of money building high schools that were obsolete before they were designed.

III: One-Story or Two-Story? Daylighting?

Rising construction costs, and the realization that one-story schools need not be fireproof and hence can be less costly, have induced arguments familiar to all of us. All other things being equal, the point has been well proved, we believe. However, seldom is everything exactly equal. On fairly level terrain and a site large enough to spread the school out, the one-story building can be substantially less expensive. On a restricted urban site the school must go up in the air. Land costs prohibit anything else. Again, on a hilly site it is often folly to spend a great deal on grading; site costs can quickly wipe out the theoretical saving shown by one-story designs. The cost of providing foundations on hilly terrain may be very large. Why not use the space thus provided?

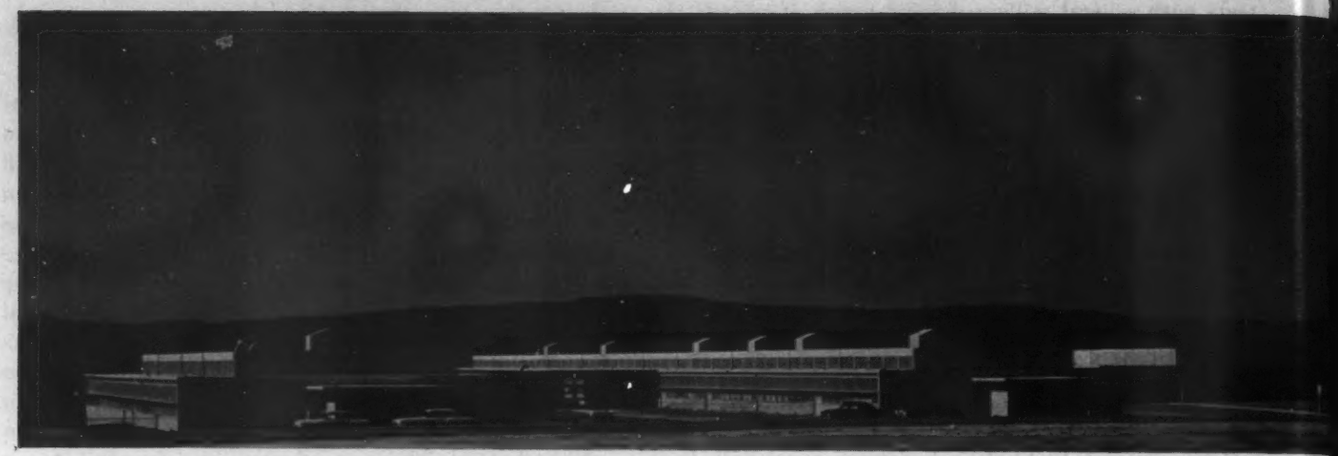
Another factor, quite serious, is the circulation problem. A finger plan for a fairly small elementary school can work quite well. The elementary classroom of today is self-contained; its pupils occupy the one room continuously. There is a tendency, though, to consolidate small schools to reduce expenses. In the large consolidated elementary school, excessive distances from entrances or bus-loading platforms to classrooms, and from classrooms to centrally grouped toilets, are likely to become handicaps. In secondary schools, where students move from room to room at frequent intervals, miles of corridor can constitute a definite drawback.

In more and more localities we can expect substantially less emphasis on daylighting. Natural light is so variable that it can seldom be relied on during the entire school day without considerable recourse to electric light. Control of daylight to prevent glare has been found costly and involved. We probably won't go to the extreme of providing only a narrow vision strip of glass, but need for darkening rooms for visual programs, complexity of daylight control and high construction costs are forcing us somewhat in that direction.

IV: Critical Materials

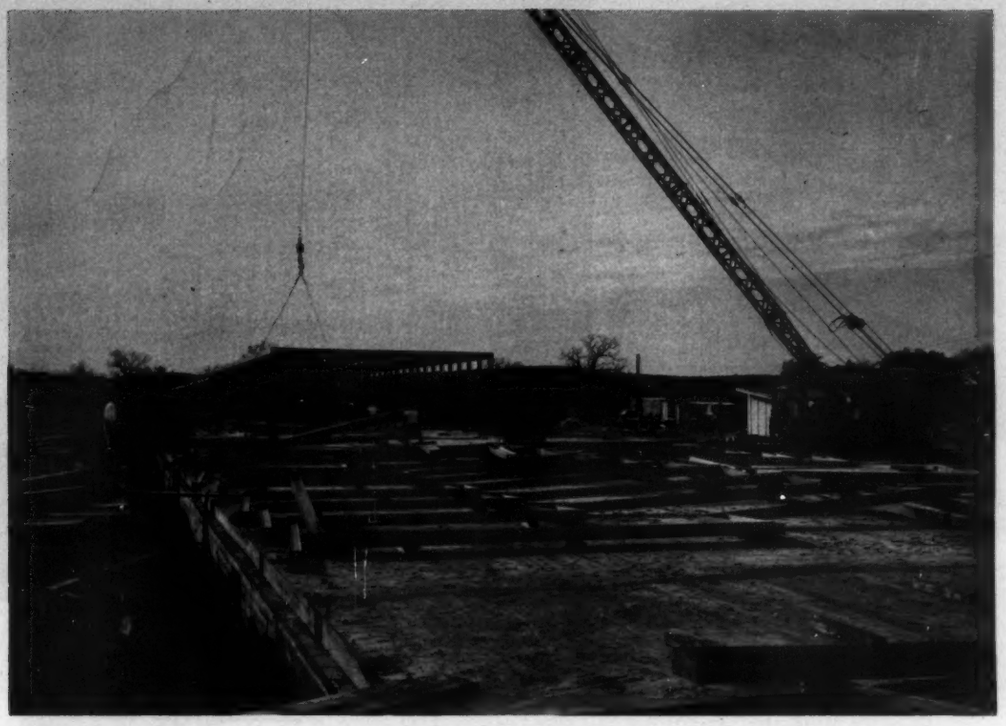
As this is being written, the U. S. Office of Education is presenting to the Defense Production Agency in Washington requirements for steel, copper and aluminum for schools for the third quarter of 1952. These are based on applications in hand or expected before the beginning of the third quarter. Allocations are expected early in April. The Office of Education states, understandably, that estimating will be facilitated if applications are filed before April 1.

The Office also announces that, in addition to the more than 2000 projects currently under construction (including some college and library buildings), second quarter allocations will permit about 1500 new starts. Steel, copper and aluminum are expected to be scarce through the third quarter.



In Casis, while some severely handicapped pupils may never leave treatment rooms, those physically able participate as fully as possible in regular program. University of Texas built and operates special education wing (foreground, below); Austin Board of Education, regular 20-room primary and elementary wings (center)

Mears Studio



NORMAL AND HANDICAPPED CHILDREN TOGETHER

Casis Elementary School, Austin, Texas

Page, Southerland & Page, Architects;
Cottingham & Wilson, Structural Engineers;
Landauer & Guerrera, Mechanical Engineers

IN DESIGN, CONSTRUCTION, AND OPERATION, Casis School is a cooperative venture of the Austin Board of Education and the University of Texas. Its planning was preceded by invitations to classroom teachers, architects, principals, citizens-at-large, specialists in education of handicapped children and the children themselves, to pool ideas and experiences. Particularly valuable was advice received from numerous faculty members at the University's School of Education, from the Special Education Department of the Austin Public Schools, and from consultants and specialists from the local Cerebral Palsy Committee and Center. Numerous special education schools were studied by the architects. Construction of Casis School, started in 1949, was completed in 1951.

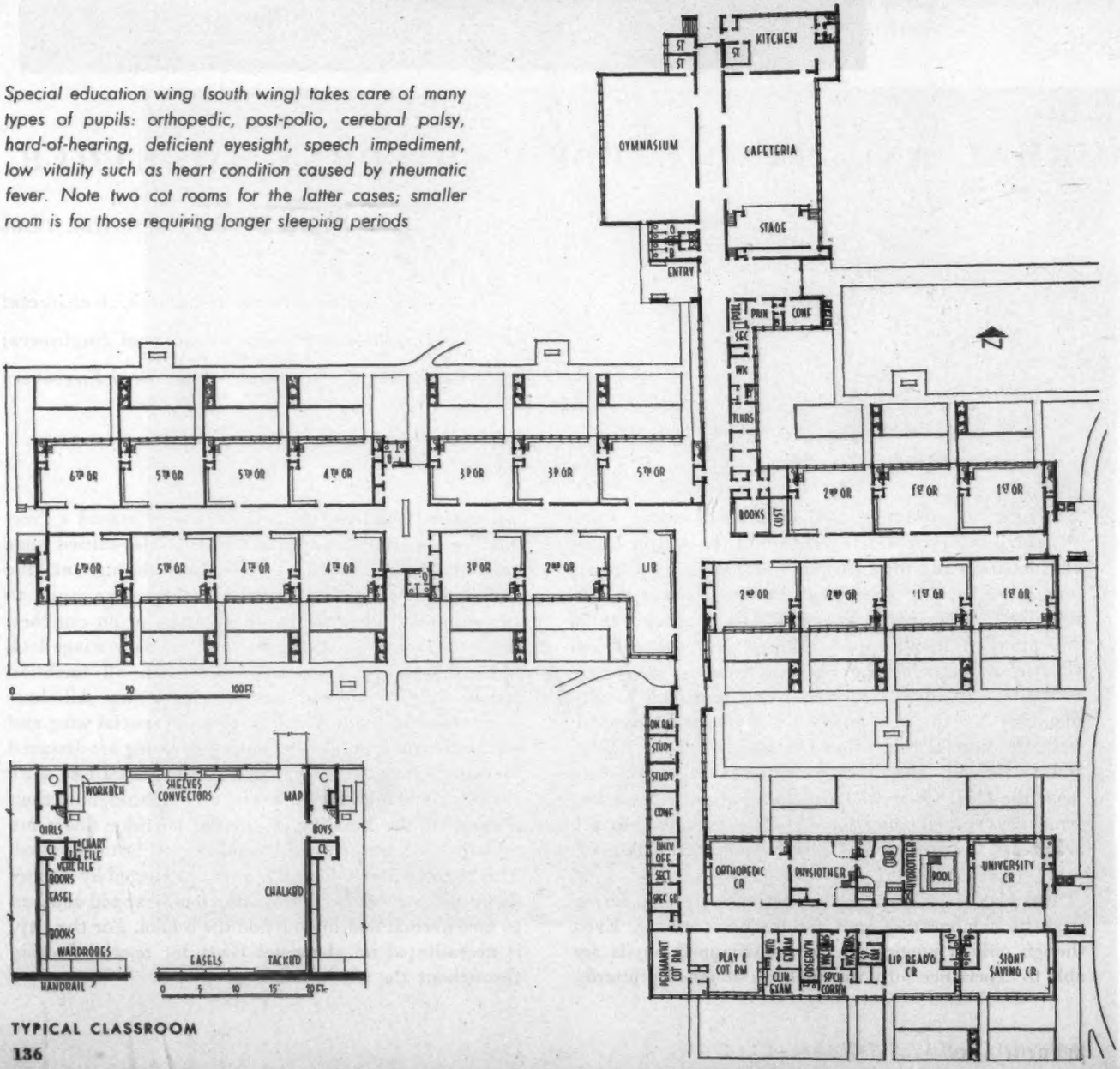
The University's special education wing (see facing page) is a laboratory unit for teacher training. Even though only a portion of the handicapped pupils are able to experience fully the facilities designed primarily for normal children, the fact that they attend a "regular" school has therapeutic value; it also caused some modifications in design. Corridors throughout the building have handrails and are wider than usual to accommodate children in wheel chairs or on crutches. Bus entrances at both special and primary wings look alike; handicapped children can reach all facilities, indoors or out, without encountering a step. All classrooms have individual toilets; those in special wing and one stall in each public toilet in regular wing are designed for wheel-chair users — a reasonable compromise since the city could not finance special toilets throughout their portion of the building. Similarly, corridor floors are asphalt-tiled, treated with non-skid wax, but *not* buffed. This reduces psychological hazards presented by a shiny floor, and is a means of preparing handicapped children to face normal flooring outside the school. For the city, it necessitated no abnormal costs for special flooring throughout the whole building.

CASIS SCHOOL, FOR

NORMAL AND HANDICAPPED

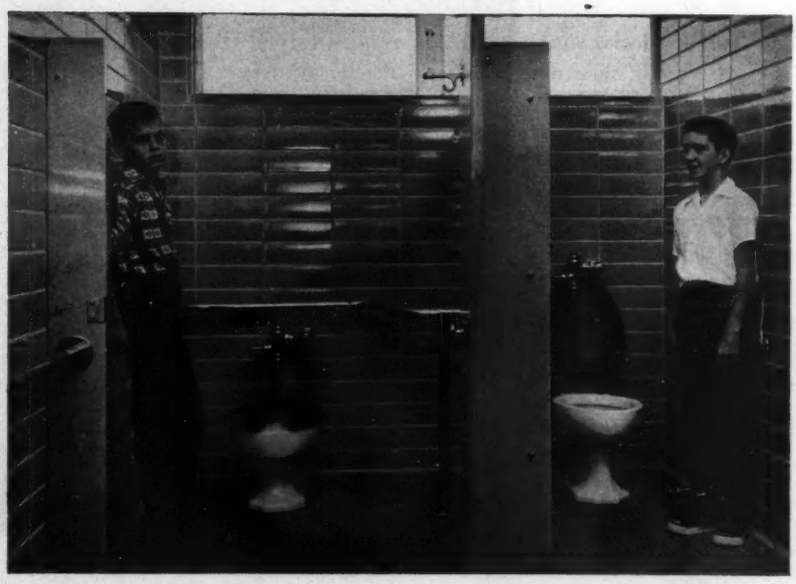
Mears Studio

Special education wing (south wing) takes care of many types of pupils: orthopedic, post-polio, cerebral palsy, hard-of-hearing, deficient eyesight, speech impediment, low vitality such as heart condition caused by rheumatic fever. Note two cot rooms for the latter cases; smaller room is for those requiring longer sleeping periods



TYPICAL CLASSROOM

Hedrich-Blessing Studio



Mears Studio

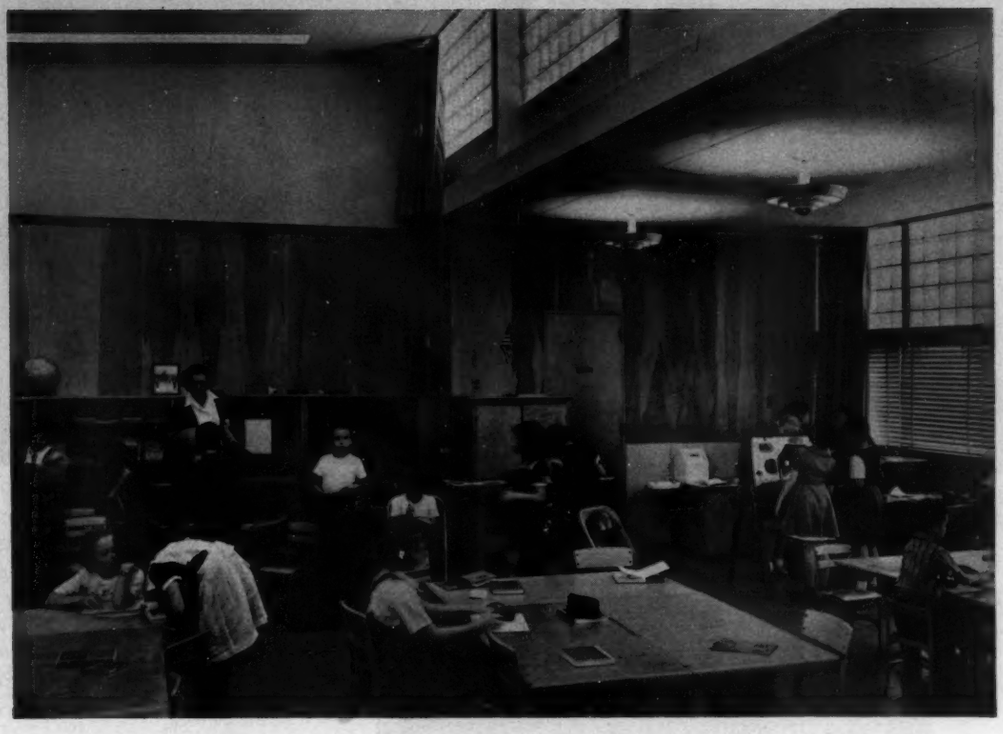
Special and regular classrooms are as nearly alike as possible, except that special rooms are larger and have the necessary treatment apparatus. Typical classroom plan (bottom left, facing page) shows standard equipment, economical placing of toilets so each serves boys or girls from two adjoining rooms. Photo at right: public toilet in regular school wing, with wide stall for handicapped children. Two photos above: directional glass block panels in windows and clerestories light interiors of all rooms. Top photo shows regular classroom; center, lip reading (special) room

Mears Studio

Mears Studio

Hedrich-Blessing Studio

In the special wing, orthopedic room was placed closest to regular classrooms used by special students. It has usual classroom facilities plus handrails with vertical bars for children of different heights. Desks and chairs are specially built for each student in school shop. Physiotherapy room (photo at right) is primarily for exercise and physical training, is used in conjunction with two adjoining hydrotherapy rooms (photo, bottom, facing page); these have radiant-heated floors. Suite even accommodates some stretcher patients. Clinical examination area (plan, preceding page) and speech correction room both adjoin observation room equipped with one-way-vision panels. Speech section contains a sound-isolated, acoustically dead room in which is delicate electrical testing apparatus. In sight-saving room lighting is automatically controlled to maintain a constant level.



It should not be forgotten that Casis is preponderantly a school for normal children. Planned for 600 students, it now has 672; 20 of these are full-time pupils in the special wing, 31 part-time in the special wing. Above: typical "regular" classroom

Hedrich-Blessing Studio

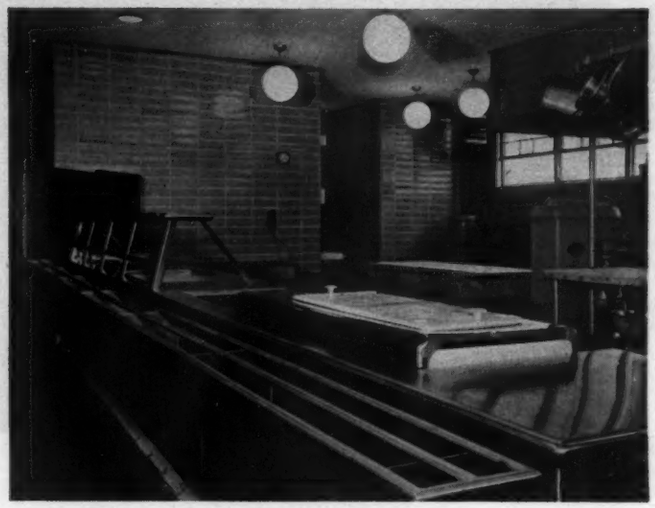
Mears Studio

CASIS SCHOOL

At intervals in corridors, benches are provided (upper left) for handicapped students to rest on; corridors have handrails, non-skid asphalt tile floors (upper right). At left, library charging desk; below, library. Construction is steel frame; reinforced concrete could have been used although little difficulty was experienced in obtaining steel. Roofs are concrete poured on steel decking, with insulating fill

Design of Casis School took 15 months. Texas has provided special funds for educating exceptional children for about six years, but school systems are still proceeding tentatively in planning the buildings needed because not much is yet known positively concerning design requirements; also, specially trained teachers are few in number. In many respects, then, Casis is experimental

Mears Studio



Total cost excluding site and landscaping was $721,756.50; total sq ft, 61,175; cost per sq ft, $11.76. Portion built by Austin Board of Education, 46,775 sq ft, cost $11.61 per sq ft; special wing built by University of Texas, 14,400 sq ft, cost $11.92 per sq ft. Such factors as joint use of low-pressure steam heating system, use of the special wing's speech correction facilities, etc., for normal students, and joint administrative area, must also be considered in assessing costs

Hedrich-Blessing

Ben Schnall

Planned for kindergarten through eighth grade, Memorial School was designed under New Jersey's old State Schoolhouse Code which did not permit bilateral lighting. In these circumstances its double-loaded corridor is logical. The dihedral or butterfly roof results in sloping classroom ceilings which help to reflect natural light to inside areas of rooms. General views show, on this page, west wing (offices, cafeteria, library); on facing page, east wall of classroom wing. At right, exterior and interior of lobby at entrance from principal parking area

MEMORIAL ELEMENTARY SCHOOL

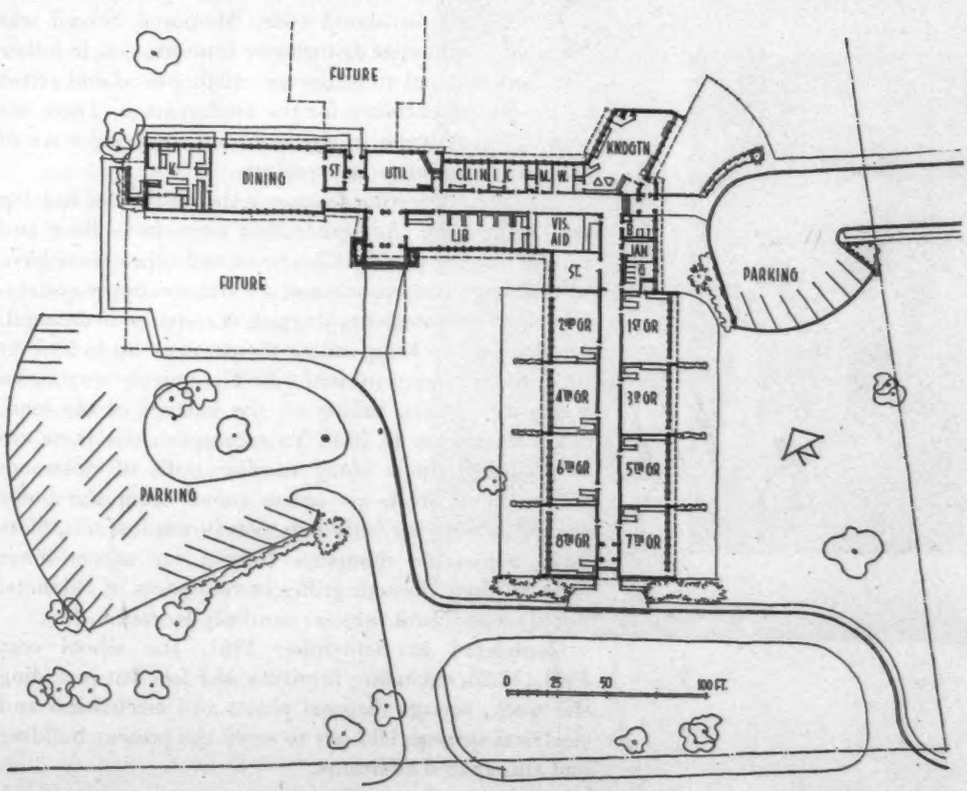
Arthur Rigolo, Architect — *Paramus, New Jersey*

NOTABLE AS AN EXAMPLE of design quality achieved under an out-dated code, Memorial School was oriented to minimize disturbance from the sun, to follow site contours and to utilize an existing dead-end street as a separate entrance for the kindergarten. There are four different levels in the building, requiring a set of steps and two ramps in corridors.

Another interesting feature is the method of heating and ventilating. Administration areas have floor and ceiling heating panels. Classroom and other areas have both floor heating panels and a warm air supply system. Floor panels, somewhat sluggish in response to demand, are designed to bring indoor temperature up to 50 F at an outdoor temperature of 0 F. The quickly responsive warm air system, taking up the balance of the load, heats classrooms to 70 F. To accomplish this there are two parallel ducts along window walls of classroom wing. Warm fresh air enters rooms from the outer (supply) duct via continuous slots in window sills. Slots have adjustable dampers. Return air enters inner (return) duct through grilles in toe-spaces of cabinets. Supply and return fans are centrally located.

Completed in September 1951, the school cost $401,117.20, excluding furniture and fees but including site work, sewage disposal plant, and mechanical and electrical systems laid out to serve the present building and anticipated additions.

MEMORIAL ELEMENTARY SCHOOL



Ben Schnall

In plan, note library next to lobby, convenient for public use; also, library work room which serves visual aids room as well. One corridor ramp is placed so entrances at both ends of sloping floor of visual aids room are entered on a level. At intervals in corridor ceilings, plastic bubble skylights are placed off center over drinking fountains, bulletin boards, etc. In photos of typical classrooms (facing page and left) is shown work center-coat storage area. Kindergarten (photo below) is placed at angle to catch more sun; in its window sills the warm air supply slots are visible

MEMORIAL ELEMENTARY SCHOOL

Kindergarten clothing area (right) and sink counter (below) demonstrate quality of interior finish. Walls are cinder block with plaster and face brick, with interiors generally off-white except that the front wall in each room is painted a distinctive color. Woodwork is birch. The anticipated addition to the school is currently in working drawing stage

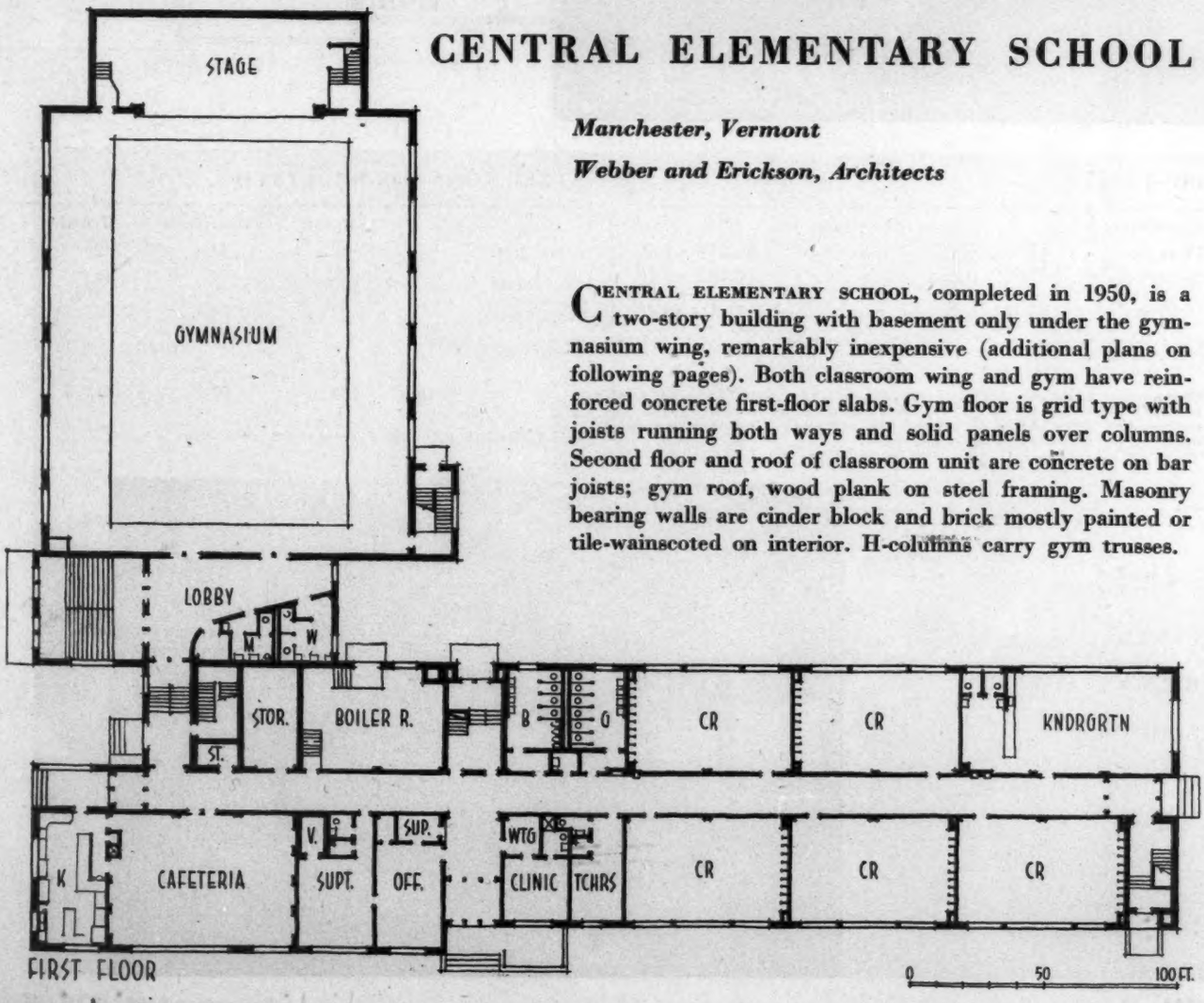
Ben Schnall

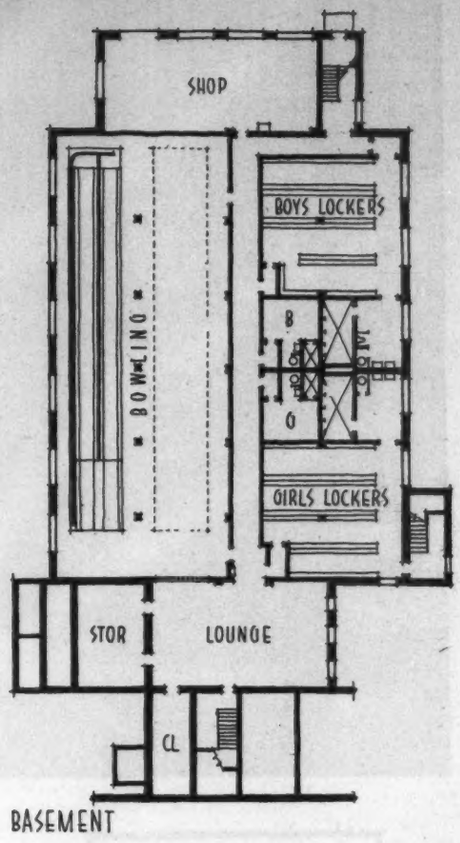
CENTRAL ELEMENTARY SCHOOL

Manchester, Vermont

Webber and Erickson, Architects

CENTRAL ELEMENTARY SCHOOL, completed in 1950, is a two-story building with basement only under the gymnasium wing, remarkably inexpensive (additional plans on following pages). Both classroom wing and gym have reinforced concrete first-floor slabs. Gym floor is grid type with joists running both ways and solid panels over columns. Second floor and roof of classroom unit are concrete on bar joists; gym roof, wood plank on steel framing. Masonry bearing walls are cinder block and brick mostly painted or tile-wainscoted on interior. H-columns carry gym trusses.





BASEMENT

COST DATA

Classroom Wing		*Gymnasium*	
First floor	13,638 sq ft	Lower floor	10,672 sq ft
Second floor	11,909 sq ft	Main floor	10,672 sq ft
Totals	**25,547 sq ft**		**21,344 sq ft**
Cost: $303,242, or $11.87 per sq ft		Cost: $154,865, or $7.26 per sq ft	

Cost for both buildings: Total sq ft, 46,891; total cost, $458,107, or $9.78 per sq ft. Maximum number of students permitted by state law is 507, making cost (both buildings) approx. $904 per pupil. Desirable maximum capacity, at 25 sq ft per pupil, is 402.

STEEL TONNAGE REQUIRED

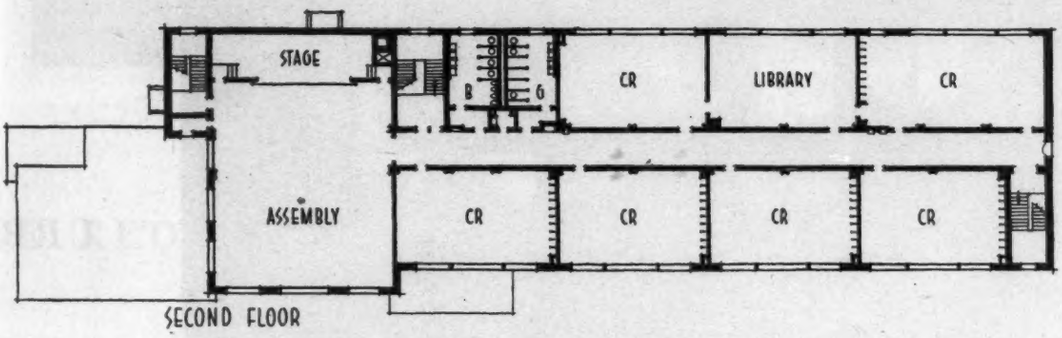
	School	*Gymnasium*	*Total*
Structural [1]	62	34	96
Bar Joists	53	4	57
Reinforcing	24	31	55
Miscellaneous [2]	—	—	approx. 3.5
Totals	**139**	**69**	**211.5**

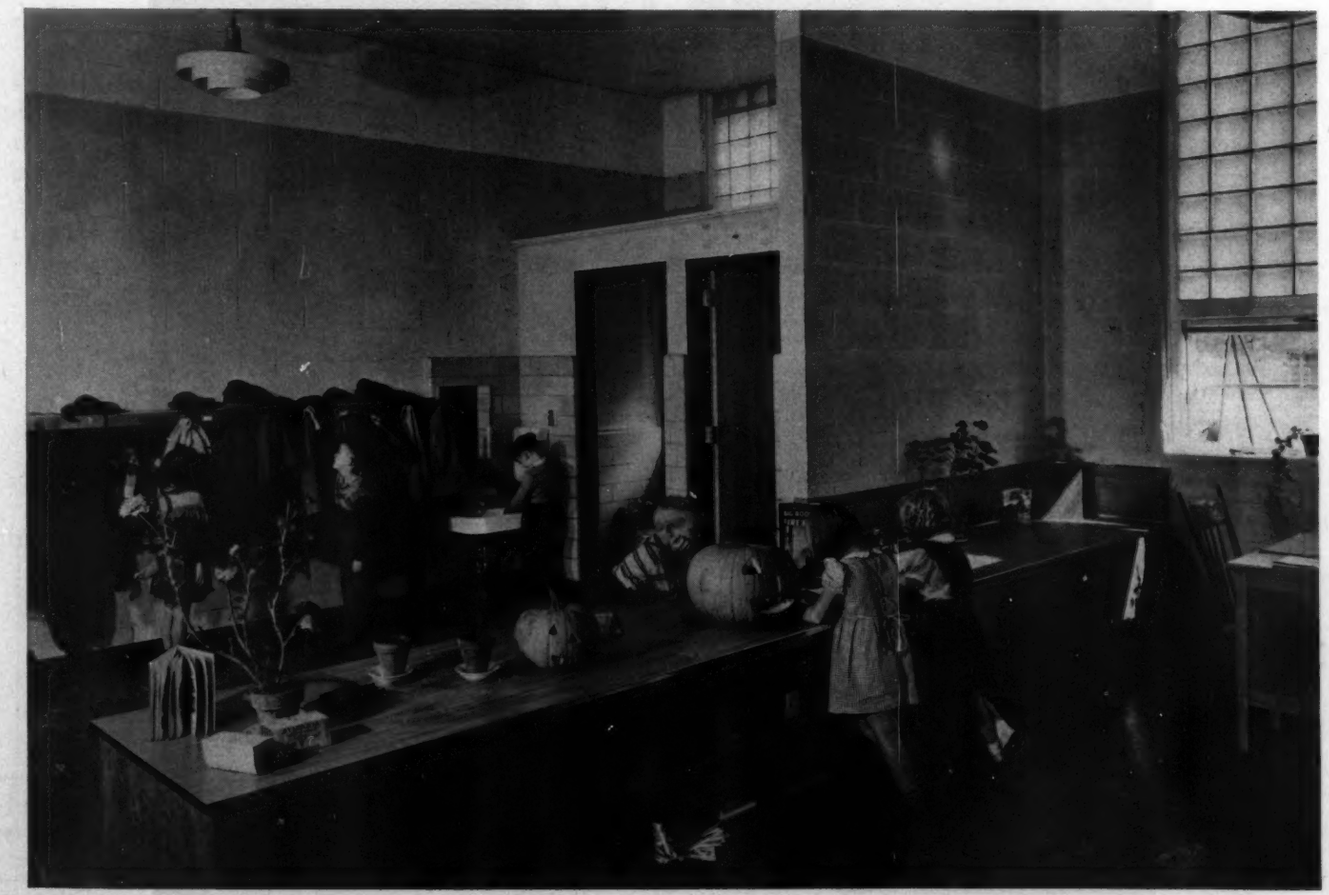
1, includes lally columns. 2, steel stairs, misc. iron

CENTRAL ELEMENTARY SCHOOL

Classroom wing roof slab is covered with fill insulation. Windows are directional glass block with steel sash; exterior sills are marble, available locally. Ceilings are acoustic plaster, chalk boards green on cement asbestos board with aluminum trim and chalk trays. Boilers are oil-fired. Ventilation is forced, through classroom lockers

Joseph Molitor





Ernest Brown

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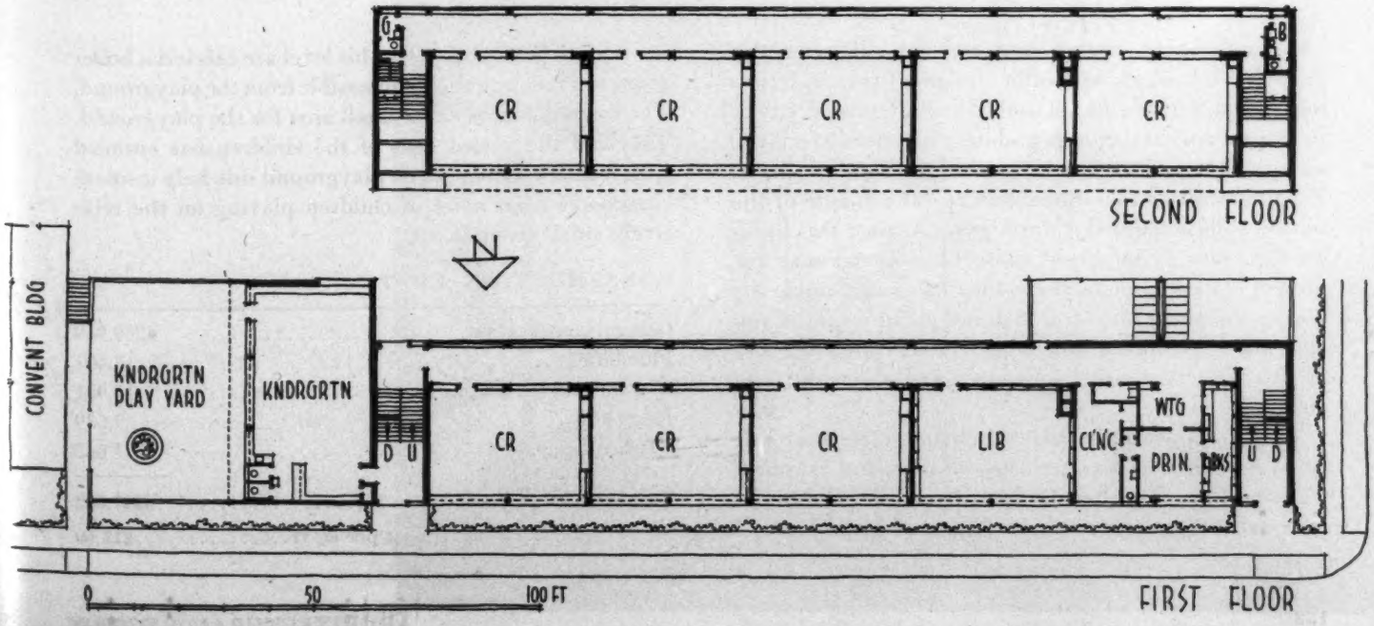
All Souls' School, South San Francisco, Calif.

BA[illegible]ITE REQUIRES TWO-STORY SCHOOL

Mario J. Ciampi, Architect

THE SITE OF THIS PAROCHIAL SCHOOL is quite limited. Immediately to the east is the church; the land slopes sharply from north to south; the plot is in the center of a densely populated residential area serving industries on the outskirts of the city. Prevailing winds are from the northwest. The classroom wing was placed along Miller Avenue so the rooms would face north and at the same time bar wind from the play yard. A gymnasium wing designed for future construction on the Spruce Avenue side will also help shield the play yard. To accomplish all these purposes and to provide the necessary eight classrooms, kindergarten and library, a two-story building was required; this in turn meant incombustible construction — reinforced concrete with concrete floor joists and roof slab. Construction was completed in November 1949.



The pre-existing church and rectory adjoining this parochial school are of Gothic design. However, it was recognized that the school should be contemporary both to insure satisfactory, up-to-date educational facilities and to obtain an efficient, economical school plant. For uniformity's sake the architectural concrete of the school walls is painted a warm gray. Against this background color is employed quite liberally because the project is located in an area which has considerable fog during the year. The steel sash are painted bright yellow, and the interior stucco and paint colors are also bright. The two street entrances are aluminum and glass.

The two upper floors, shown in plan on the preceding page, contain eight classrooms, library and administrative office. The lowest floor (plan not shown) is fully exposed on the south or playground side because the land slopes sharply. On this level are cafeteria, boiler room and toilets, directly accessible from the playground. The limited site means a small area for the playground. This and the varied ages of the children has entailed split recesses. Corridors on playground side help insulate classrooms from noise of children playing on the relatively small grounds.

CONSTRUCTION COSTS

General construction	$249,959
Plumbing	15,691
Heating and ventilating	17,951
Electrical	9,539
Kitchen equipment	4,662
Total cost of project	**$297,802**
Total area: 23,739 sq ft; cost per sq ft	**$12.60**

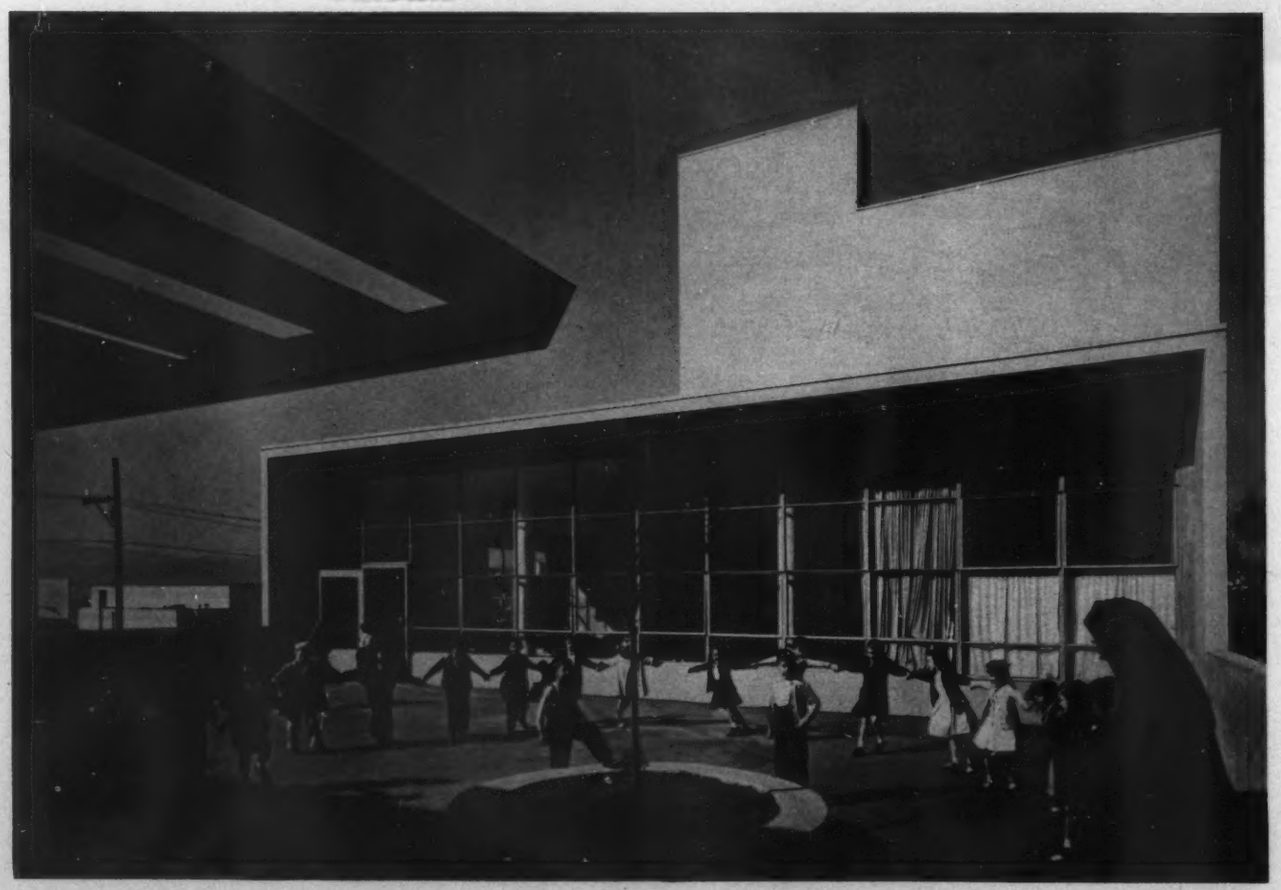
Ernest Braun

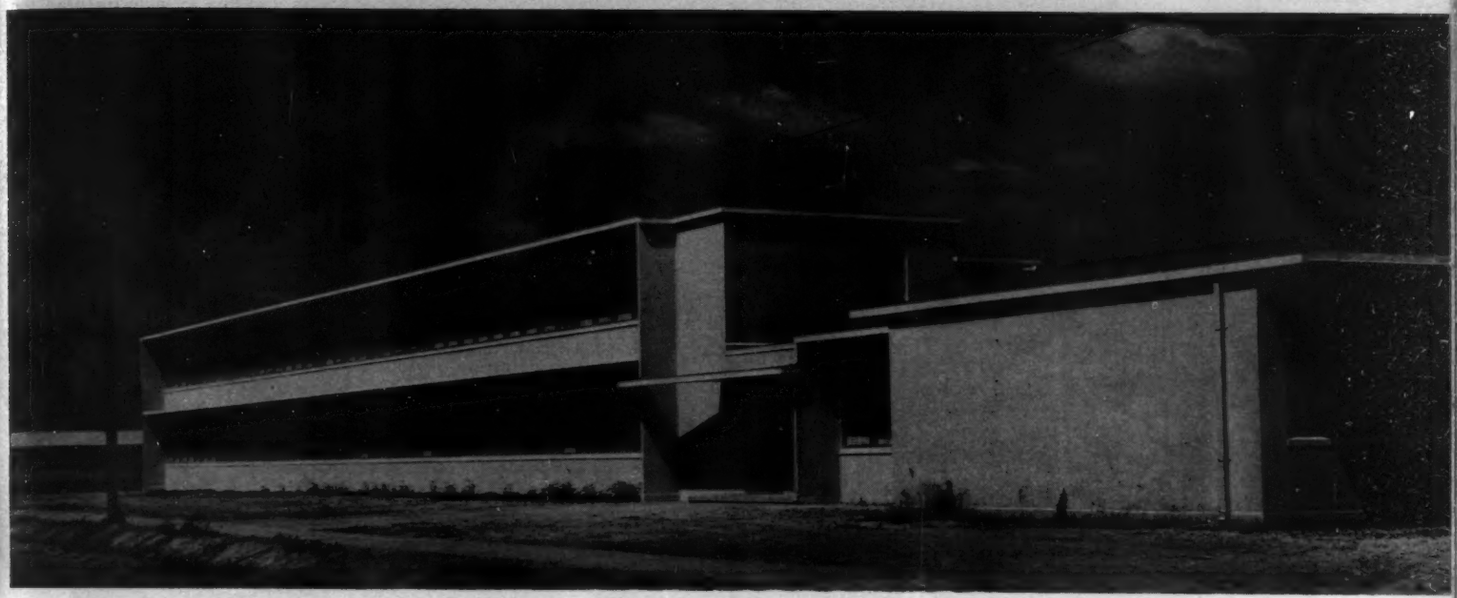
Single-loaded corridor scheme was adopted for several reasons: to orient all classrooms uniformly to the north; to permit corridors to become protective sunshades on the south; to provide a buffer between noisy playground area and classrooms. Continuous borrowed lights in corridor wall assure bilaterally lit classrooms

Ernest Braun

Above: typical classroom; right, playground. Below, kindergarten, all on one level. Only in this room are drapes needed for natural light control; interior space, flexibility, etc., were thought more important than perfect orientation

ALL SOULS' SCHOOL



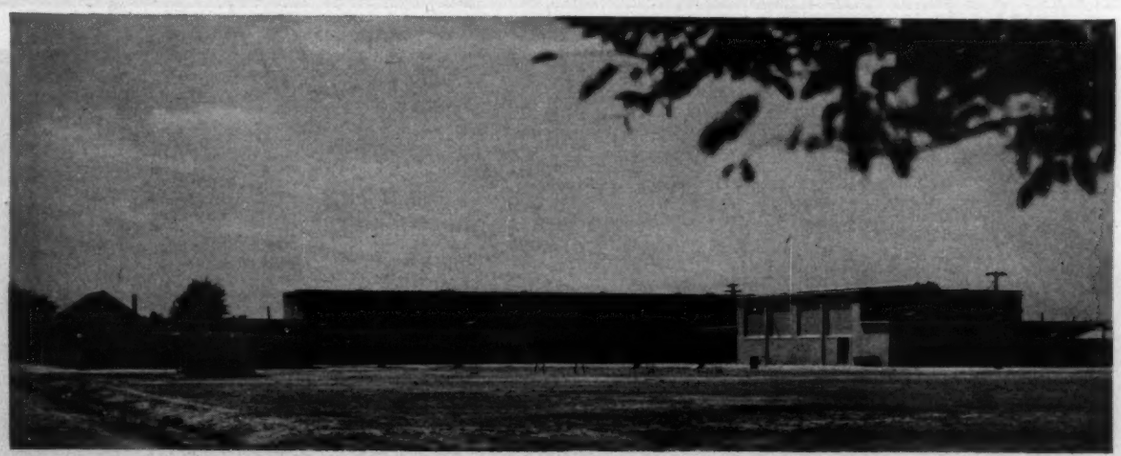


NORTH SCOTLANDVILLE ELEMENTARY SCHOOL

Scotlandville, Louisiana

Bodman & Murrell, Architects

ANOTHER TWO-STORY SCHEME determined by a limited site, this school is a complete six-grade elementary plant for 500 pupils in a heavily populated suburban area. The level site faces a heavily traveled street and has secondary streets on two sides. Building was placed at front of site with play areas at rear. This is the first school in this part of Louisiana to have open corridors (on two stories), though others have since been planned. Construction is steel frame with concrete slabs on bar joists, lightweight concrete block walls stuccoed on exterior and exposed indoors, lightweight insulated roof-slab, steel projected windows, asphalt tile floors. Built in 1949, it cost (excluding land) $280,500.00, or $9.02 per sq ft.

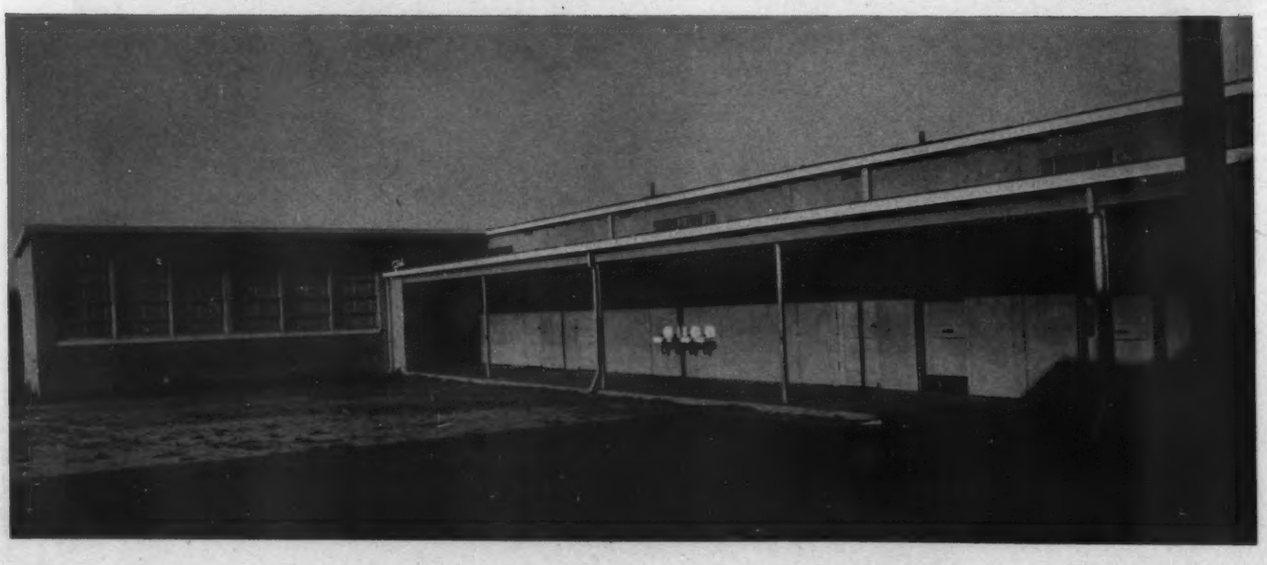


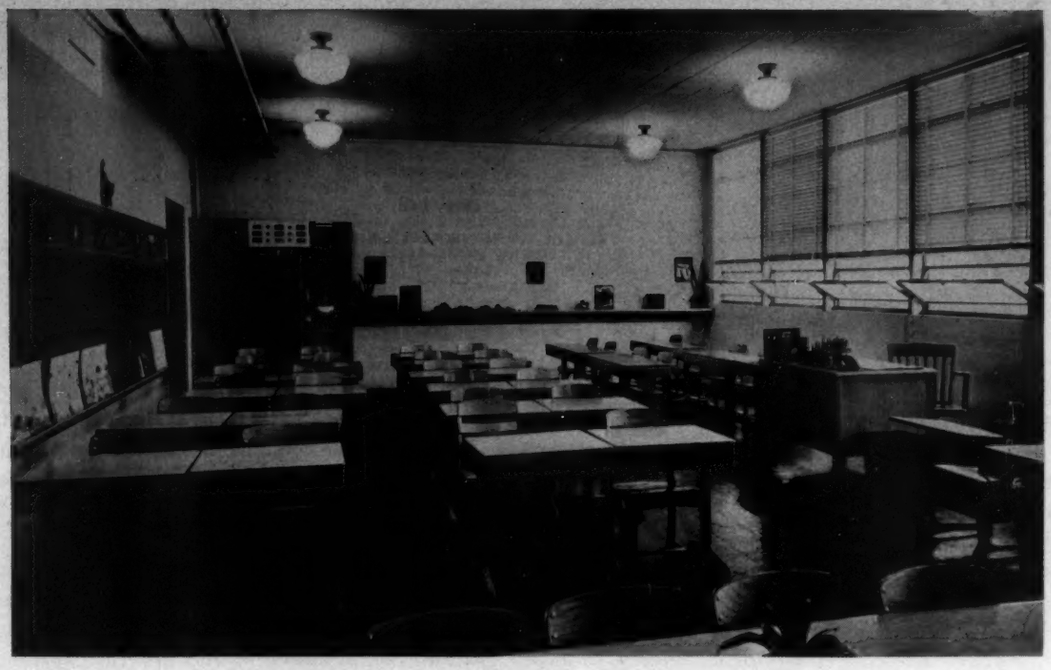
W. F. Farrell

NORTH SCOTLANDVILLE SCHOOL

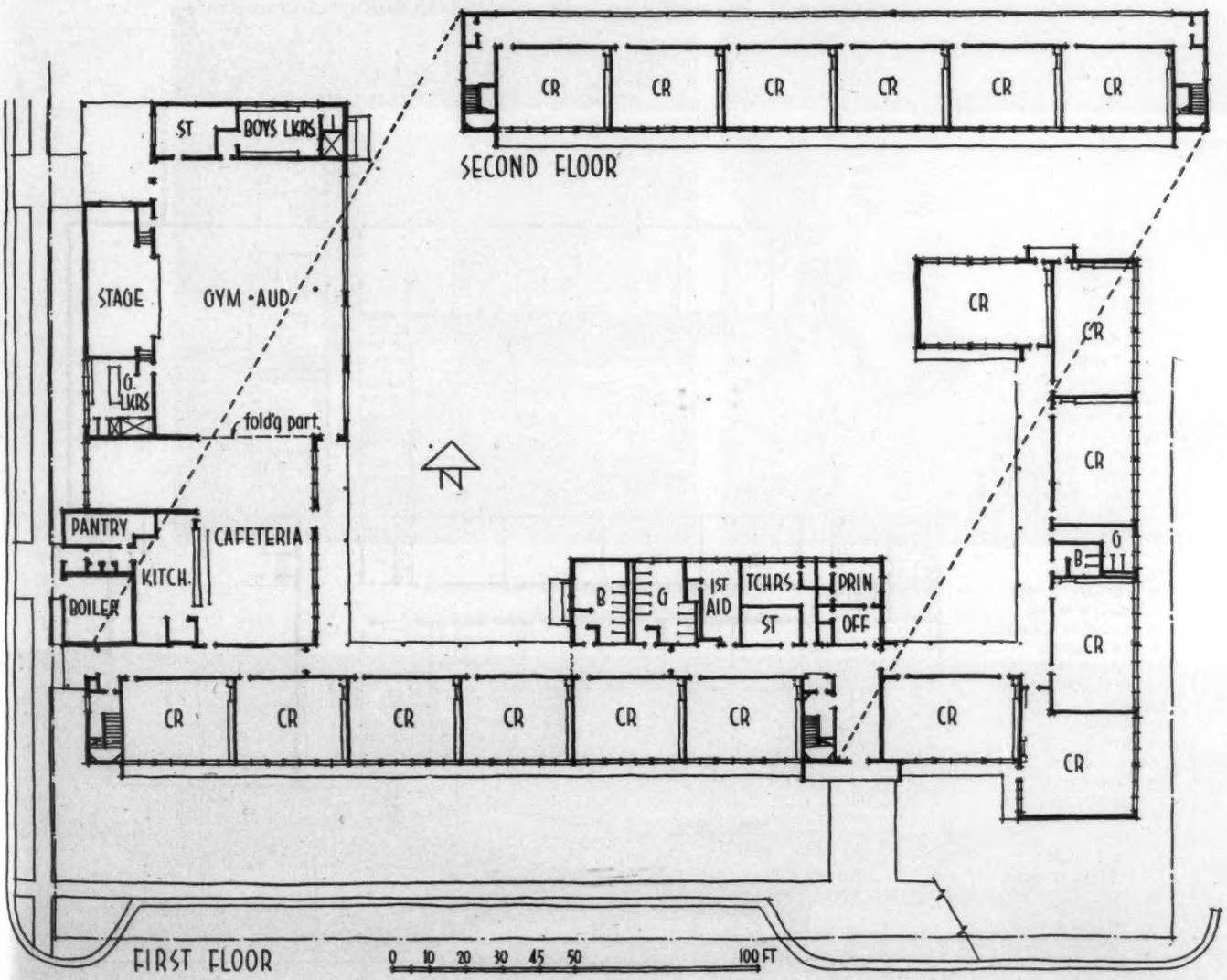
W. F. Farnell

Gym-auditorium (left, below) is separated from cafeteria by folding partition to increase area for occasional uses. This space, mechanically ventilated, has no windows but does get natural light through glass block panels. Bottom photo shows 1st and 2nd grade east wing where classrooms are large, have individual toilets





Typical classroom, above, has clerestories on corridor side for bilateral light and ventilation. Note acoustic ceiling, flush wood doors, incandescent lighting. Millwork is natural cypress



12 GRADES AND COMMUNITY CENTER

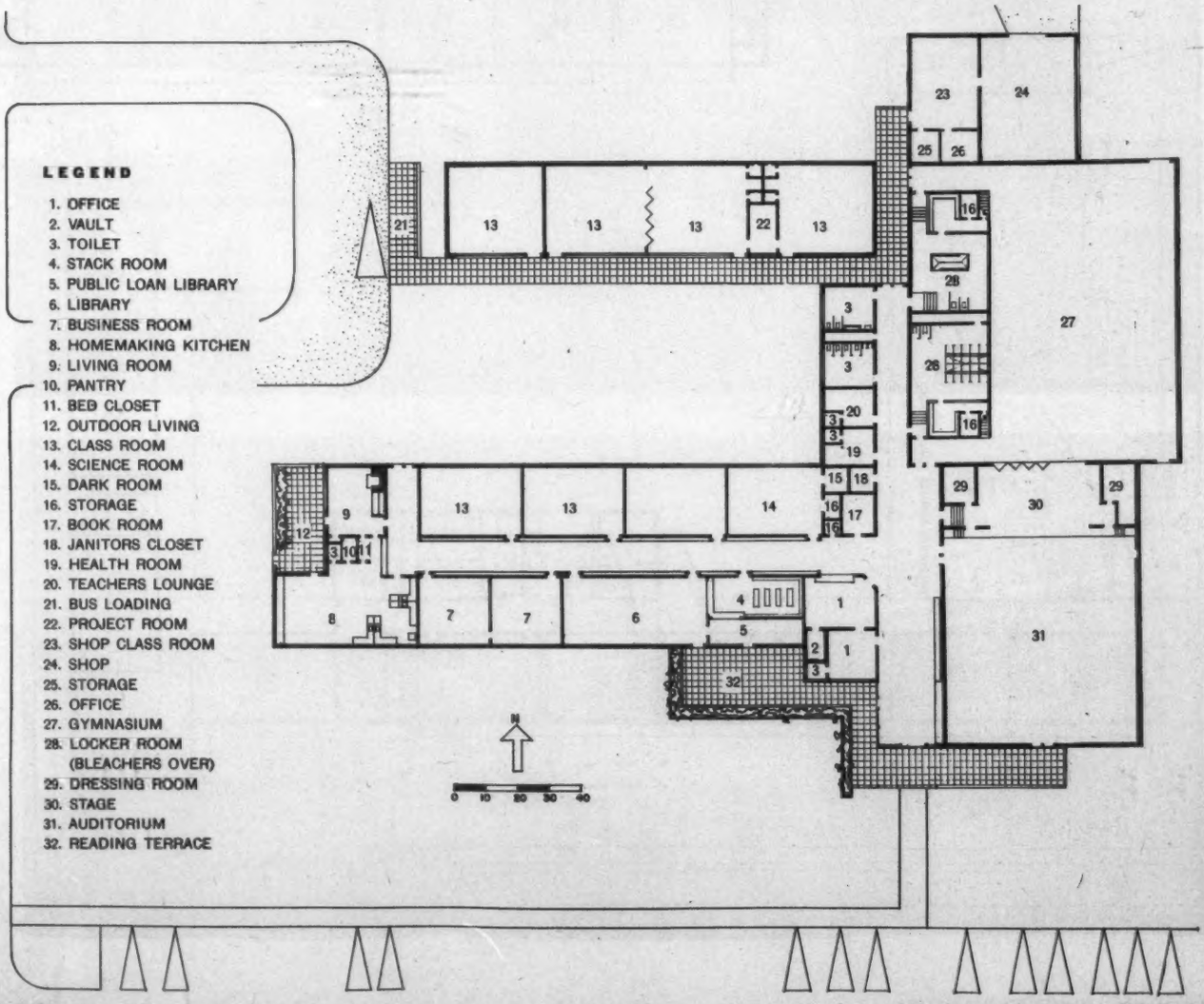
Muenster School, Muenster, Texas

Stanley Brown, Architect

MUENSTER SCHOOL is both an elementary and a high school. Most of the community's children attend a local parochial school, so only four elementary classrooms were needed. The parochial school also furnishes lunch room service for the public school. The school library serves also as Muenster's public library. The gymnasium, the only one in town, is in constant use.

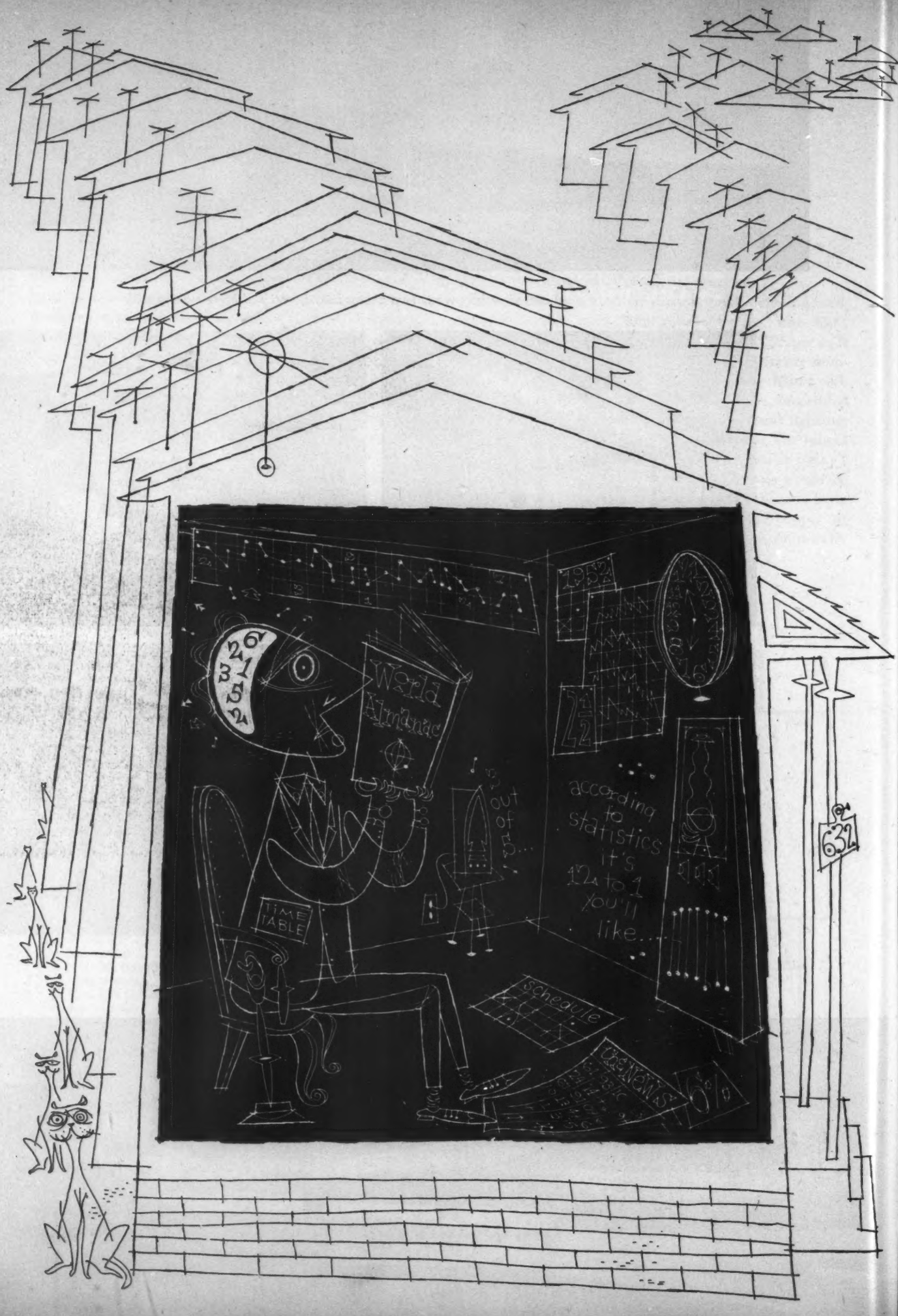
The open-corridor elementary wing has louvered clerestories above the low corridor and clear glazed windows shielded by the corridor roof. North windows are protected against sky glare by a wide overhang. Private toilets are provided for the two lowest grades. To improve circulation and reduce cost, the high school wing has a double-loaded corridor; secondary students change classes often. All rooms, laboratories, etc., have full complements of up-to date equipment. Notable is the porch of the home-making suite where outdoor living, so prevalent in Texas, is experienced.

Total cost, on a fixed-fee contract and including land, equipment, site work, and architect's fee, was $300,000.00; square footage totaled 36,198, or $7.25 per sq ft including all fees. Construction is brick veneer, semi-fireproof, with plastered interior walls, fiberboard ceilings, concrete floors covered with asphalt tile, suspended unit heaters, natural ventilation, incandescent lighting, and complete sound and program systems. The school was built in 1950; the architect says that under today's limitations steel used to frame corridor roofs would be replaced with laminated wood members; there is little other structural steel and a minimum of copper or aluminum. The change, he says, would not materially affect construction cost or insurance rates.



Above, view from west. Two photos below, porch of home-making suite

Above, left, home-making kitchen; right, elementary project room. Below, elementary wing and bus platform at left, high school wing at right


World Almanac
according to statistics it's 12 to 1 you'll like...
TIME TABLE
Schedule
NEWS

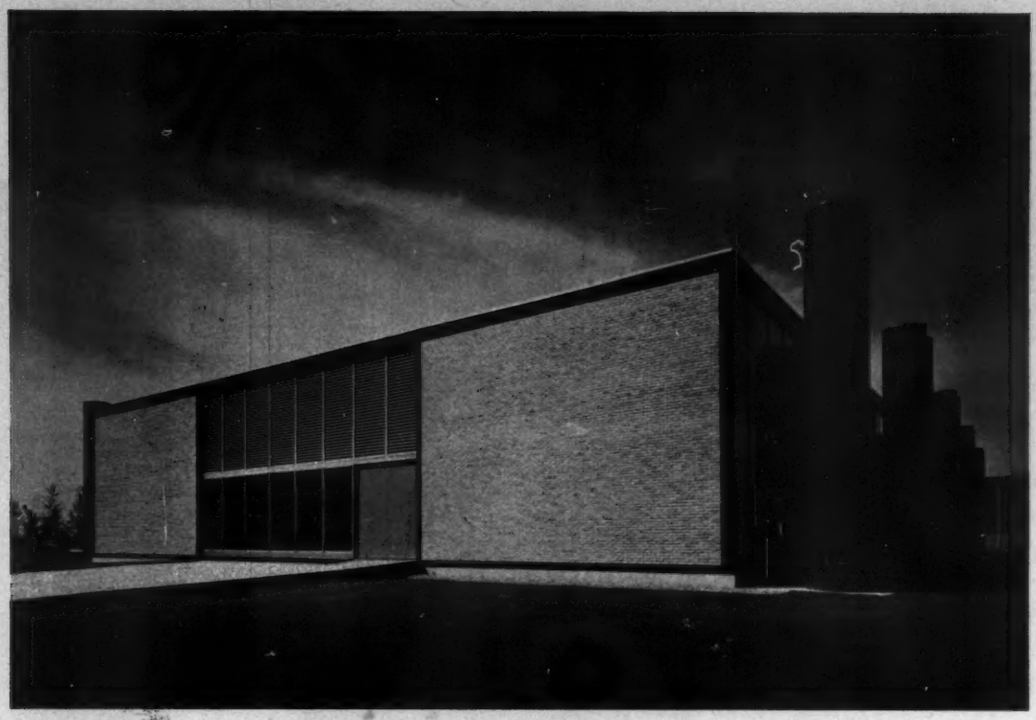


Photo: Ezra Stoller

G.M. Technical Center Dynamometer Building, Saarinen and Associates, Architects

"General Motors thinks its new plants should be at least as good an industrial product as a Cadillac . . . not a Model T"

THE EVALUATION OF ARCHITECTURE

By Henry S. Churchill, F.A.I.A.

ARCHITECTURE, we all are well aware, is a many-sided profession, partly an art, partly a technique, partly a business. We expect to find in it the long-term esthetic values that are associated with the fine arts, and at the same time to demand that it fulfil the needs of the immediate present. If we consider it primarily a profession, the increase in specialization which is characteristic of highly industrial techniques makes it impossible for all except a very few individuals to know all they need to know. Technical design then becomes a matter of cooperation and coordination. If we consider it primarily an art, personal direction and vision are all important. If we consider it primarily a business, considerations of the market place and resultant compromises are paramount. All this, as I said, is common knowledge, and would hardly be worth repeating except

"We are told . . . it is Society for whom we are building, an anthropomorphic statistic"

Drawing by Tom Ballinger

McKim, Mead and White, Architects

"In the immediate past this expression was associated with the status of classical eclecticism — the Penn Station . . . the Museum of Modern Art"

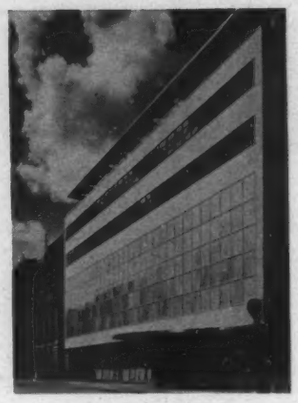
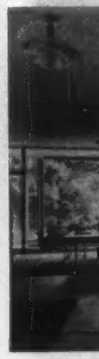


Photo: Museum of Modern Art

Philip Goodwin, Architect

Photo: Hedrich-Blessing

"The ruins of the Maya stir us and trouble us deeply, even though we know nothing, except conjecturally, of their uses"



Tugendhat Hou

that since we still largely believe, and to a great extent teach, that Architecture is an Art, some aspects of the resulting confusion of thought on the subject — particularly critical thought — are worth a little probing. By what standards should we judge or be judged? What should teachers, critics, historians accept as the function of the architect and his work?

It should be remembered that architecture has always been schizoid. Its immediate purpose has always been to produce sound shelter; at the same time, if the architect is to maintain a practice and earn a livelihood he must satisfy either the client's desire for profit or his pride, or both. No architect ever could — or can — continue to be an architect without clients. Therefore his accomplishment as a master of fine arts depends in a very large degree as much on the quality of the client as it does on the architect's creative abilities.

In this respect architecture resembles commercial art. Although it is more complicated and far more subtle, it still is, for the client, a form of advertising and a method of establishing status. Johnson's Wax found its original investment in Frank Lloyd Wright very well worth while, and came back for more. General Motors thinks its new plants should be at least as good an industrial product as a Cadillac, something not at all in the category of a Model T. New York Life, with millions of policyholders, thinks its equity investments should produce good will as well as have long-term safety, and equates these with a good living environment. These are all sound commercial motives finding appropriate contemporary expression. In the immediate past this expression was associated with the status of classical eclecticism — the Penn Station, the Frick Mansion, the National Gallery, the Museum of Modern Art. Eclecticism is now outmoded because the newly acquired personal wealth which sponsored it, unsure of itself and seeking security and status in the true and tried forms of Europe's critically accepted and established cultural tradition, no longer exists as personal wealth. Wealth is now corporate, looks to its stockholders and the public for support. Corporate wealth finds in its own techniques the materials and sources for its structural forms and willingly accepts them because, at last, as a nation we have collectively accepted our civilization as based on technology and not on culture in the abstract.

Nevertheless it still remains easier, critically (and pedagogically) to judge the past than to forgive the

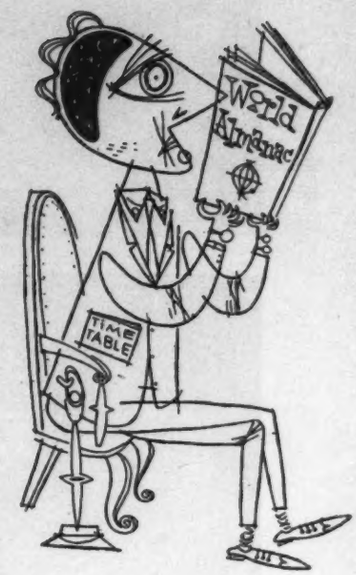
"Mies creates a house which is an objet d'art. We ask, is it a Home? Another house, a Home, may provide all the creature comforts and be as dull as a dead frog. An office building may be complete with brise-soleils and still be a collection of unorganized cliches"

Photo: Museum of Modern Art

Tugendhat House, Mies Van Der Rohe, Architect

Photo: Julius Schulman

General Petroleum Building, Los Angeles; Welton Becket, Architect



present. We are still confused as to what architecture is. We look at the Parthenon *sub specie aelernitatis*, detachedly as Art, not as shelter. We are not concerned as to whether the roof leaked or not, nor worried by the lack of public toilets. The ruins of the Maya stir us and trouble us deeply even though we know nothing, except conjecturally, of their uses. But when we look at the architecture of today we are confused between the values we attach to techniques and practical purposes, of which we are proud, and those values we attach to emotional experience, which we are afraid of. Wright's roofs leak, so it is said, and the accusation becomes a sneer dampening the esthetic vibration; Mies creates a house which is an *objet d'art*, as impersonal and beautiful as a Sung vase. We ask, is it a Home, would *you* want to live in it? The emotion is deflated, we are relieved. Another house, a Home, may provide all the creature comforts and be as dull as a dead frog; an office building may have the latest system for recirculating stale air, be complete with brise-soleils, slab ends, and escalators and still be a collection of unorganized cliches. We admire the technical accomplishment and are not disturbed. Run-of-the-mill building has no characteristics at all. It is practical, it is competent and, above all, it pays off. We admire that most of all, for that too is a value judgment in our society. Nor can we overlook, in thinking out our confusion, those other values imposed on us by Mumford and his school — social values, the place and function of a structure in relation to society-as-a-whole. This is an approach which has been growing in importance because, we are told, it is Society for whom we are really building, an anthropomorphic statistic. So we arrive at a point of view toward architecture not too remote from the moral values of Ruskin.

These confusions of external and alien values are, again, like those of the commercial arts, the creation of which depends on acceptance by the client for the purpose of obtaining public approval of himself or his product. They do not apply to the so-called fine arts, except perhaps in some minor degree, since in general the artist is concerned primarily with the expression of spiritual or prophetic values which may or may not be at once accepted by the public. Also, the costs of production are relatively low, are more often than not assumed by the artist and therefore are not a barrier to major creative effort since he remains relatively independent. Confusion as to creative purpose certainly

Sert Mural, R.C.A. Building

Atlas, International Building, Rockefeller Center; Lee Lawrie, Sculptor

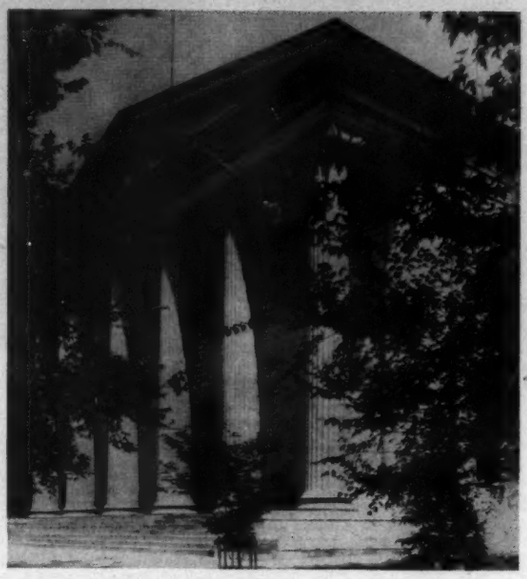
Left: "Murals . . . are precisely what architecture is, a public art judged by contemporary values . . . Sculpture at its best and worst, too . . . is an adjunct to architecture or, if not, is at least set in its midst." Above: "The arts have accepted and been influenced by African Negro (art)." "There is no question that Cassandre is a greater artist than the man who does Miss Rheinpuss"

does not apply to music, of which architecture is supposed to be the frozen image; nor to poetry, which is the art of prophecy; nor to painting, except perhaps to the great murals, which extend from Siqueiros back to the caves of Altamira and which are precisely what architecture is, a public art judged by contemporary values before taking their place in the critical hierarchy; nor to sculpture which at its best is an adjunct to architecture (at its worst, too!), or if not an adjunct is at least set in its midst. The critical confusions that do beset these arts are all within the ideology of Art, not confusions as to their economic use, their social purpose, or their technological performance.

The arts have accepted and valued and been influenced by African Negro music, Andaman idols, hieratic symbolism, the painting of the insane and the poetry of the feeble-minded. Architecture cannot succumb to the hut, the cave or the igloo, no matter how charged with esthetic significance these forms may suddenly become.

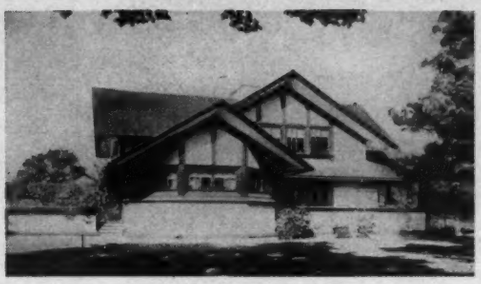
Contemporary architecture does not have the same goals as the contemporary fine arts, and requires a different set of critical standards. A re-appraisal of the history of architecture is sorely needed, and a new attitude toward the relation of architecture to art and society on the part of critics and teachers. Architecture is a contemporary commercial art (using contemporary in the sense that socially the art and architecture of any period are contemporary to that period), and it is also an essential artifact for the use of people and an essential symbol of status or profit. The other arts may be safely ignored by practical men, since they serve no "practical" purpose. They may be allowed to wither in museums or deteriorate to the pages of the comics, the sound and fury of the screen, or the advertising pages of the slicks. Since architecture is essential, all it needs in order to flourish is architects. This truism is the heart of the matter, because the architect cannot be other than a product of his time. Unlike other artists he is rarely a seer or a prophet, and in this he resembles the commercial artist. The term is not meant to be derogatory. It merely limits the qualifications of the artist, excluding that peculiar gift of inner vision that characterizes the fine arts, and has nothing to do with quality, of which there are all degrees. There is no question, for instance, that Cassandre is a greater artist than the

Post Office, Miami, Fla.



Old State Capitol, Frankfort, Ky., Gledion Shryock, Architect

Two houses by Frank Lloyd Wright, 1895, 1900



Left, top: ". . . the architect cannot express his hopes for the non-existent;" bottom: ". . . the unconscious summing-up of the best qualities of a period." Above: ". . . the architect can go no faster than he is permitted to go, not by his ability or technique, but by his client"

man who does Miss Rheinpuss; or that Rodgers, like Verdi, is better than the juke-box balladeer. The architect, like these, does not reveal new worlds but makes visible the glories of this in which he lives, for whose immediate needs he contrives his structures. His is the unconscious summing up of the best qualities of a period — Litchfield, Conn., let us say; the capitol in Columbus, Ohio, a masterpiece of its kind; the University Club in New York. But it takes the perspective of time to recognize them, to let the unconscious summing up of the worst qualities fade away: the slums of the mill towns, the neo-gothic monstrosities, the Jefferson Memorial, and housing projects.

If the contemporary world has no glory because it has no spirit, its leaders no ambition for anything except material gain, no flame of faith and little honor, the architect cannot express his hopes for the non-existent. The poet can prophesy, the writer can damn the follies of his time and describe Utopia, the musician can hear the spheres sing and the painter paint visions of heaven and earth. The architect must build, and what he builds is the image of the world around him as his client sees it, no more, no less.

This immediacy, this lack of transcendency, is not a handicap to the architect; it is part of his essence to understand his world in its essence, and to transform it into form. The thirteenth century cathedrals summed up the conquest of the Church over the mind and the souls of the people, the sure and certain hope. They did not foretell the Renaissance, the new invading spirit already manifest in the writings of Abelard and the unrest in Albi. Nor did Versailles at the acme of the power of the State presage the fall of the Bastille, although discontent was rife. There is no hint of the Industrial Revolution to be found in the work of the brothers Adam, although they heard the thump of the Newcomen engine. Wright and Mies — and who else? — are closing a period, or perhaps they are transitionals, like Brunelleschi and Schinkel. New attitudes are evident in the use industry is making of the architect — and the use he is making of industry — in, for example, the G. E. Technical Center or the Corning Glass works. Follow the line of evolution from Albert Kahn's factories through the "monumental industrial" of Wank's TVA work to the Technical Center, and it is clear that the architect can go no faster than he is per-

Junior High School, Huntington, W. Va.

"No progress has been made in housing since 1937, when the pattern of mediocrity was frozen by Washington." Top: 1938; bottom: 1950

". . . the school is no longer a monument to the School Board, it is a place for children; the "efficiency" of the huge consolidated school is bound to be not so efficient educationally as the inefficient small school"

Photo: Roger Sturtevant

mitted to go, not by his ability or technique, but by his client. That no progress has been made in "housing" since 1937, when the pattern of mediocrity was frozen by Washington, is due to the same circumstance.

Another factor that influences the work of commercial artists is the "climate" of public opinion to which sponsors (clients) respond. How and why this "climate" changes is something for the social psychologists to explain, but change it does, as can be simply seen by comparing Godey's Lady's Book (text and ads) to the Woman's Home Companion. The climate, as it most closely affects the architect, is shifting from an exclusive concern with economics to a concern with human values. This is causing a shift from abstract grandeur as a symbol of wealth or power status to an entirely different set of concepts. Status always has been and always will be of paramount importance to the owner. It is what places him socially and determines the size of his mortgage. What he builds is the visible symbol of prestige; he picks his architect to that end. Versailles had to be bigger and better because Louis XIV had to have assurance not only of his place in the sun but a permanent world in which he *was* the sun. It is this that is the real economic determinant of architectural stylishness, the source of the millionaires' Italian palazzi, the merchants' Tudor houses, the Cape Cod suburb, the altitude race between the Chrysler Building and the Empire State, the prominence of Promontory and the fad for brise-soleils. And now, "Humanity — Our Client."

The difficulty, so far, is that this new client does not exist except as a faceless statistic. The faceless client of the Middle Ages, God, existed in men's hearts and was personified by the Church. Humanity, people, seem to be coming into men's minds but as yet no one represents them unless it be the bureaucracy of government agencies, something to give us pause if we care at all about architecture as an art. The faceless abstraction of The People must grow a face, must become a symbol. This may come about in the course of time — the influence of the idea is already becoming apparent, the idea that the needs of the people who use buildings are at least as important as the material welfare or aggrandizement of the specific owner. It shows in many ways: the school is no longer a monument to the School Board, it is a place for children; the "efficiency" of the huge consolidated school is found to be not so efficient educationally as the inefficient small school. The fac-

Katherine Burke School, San Francisco
Kirby-Mulvin, Architects

Lever House, New York; Skidmore, Owings and Merrill, Architects

The "Beau Dieu" of Amiens

Above: "The product of the huge anonymous office may be very fine . . . but it is a technical fineness like that of a machine." Right: "The faceless client of the Middle Ages, God, existed in men's hearts and was personified by the church"

tory, however pretentious the administrative building may be, is planned for the worker as well as for the machine, sometimes even for the public. Housing, including an increasing share of speculative housing, is more and more being planned with an eye for a complete living environment. The hospital, even, admits that patients are people and the doctors something, if not much, less than god. The new aspect and the new scale are beginning to creep into the design of office buildings, the last stronghold of economic determinism.

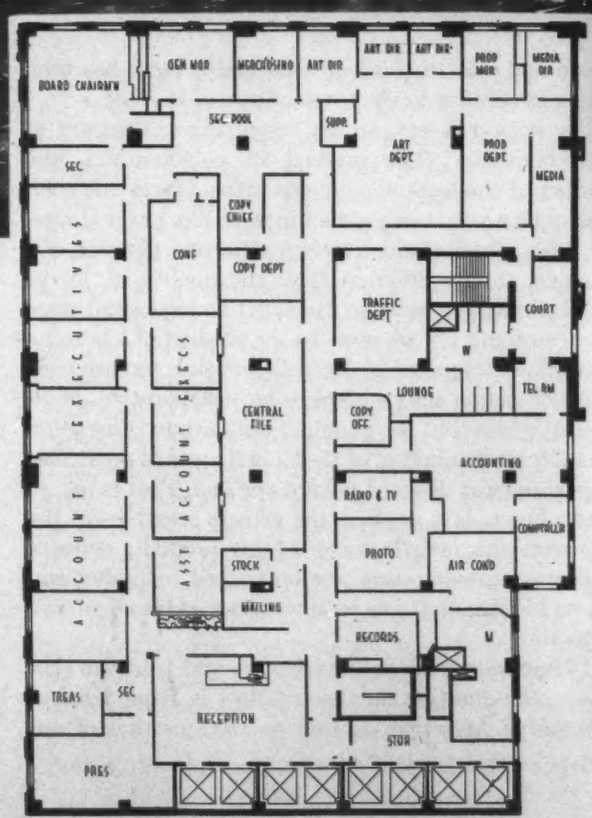
The problem for the architect is what part should he and can he play in this transformation, what attitude shall he take, what role shall he play? Shall he remain passive, and as a business man do nothing but accept his client's wishes, caring little whether the client is Business, Bureaucracy or Humanity? Is it enough that he remain an accomplished technician, riding herd on new structural materials, new methods of assembling new materials, nibbling at the edges of the sciences of acoustics, meteorology and what not? Can he dominate the scene, create an Architecture by active promotion of the forces in politics and life that are receptive to Architecture? These are most important questions, perhaps not answerable except as thought turns into action and into teaching of what architecture has been and is in relation to the total culture of its time.

The answer is not, to my mind, the pat answer of "collaboration." The product of collaboration, the product of the huge anonymous office, leaves one cold. It may be a very fine product indeed, like Lever House, but it is an intellectual, a technical fineness like that of a machine, totally different from the quality of, let us say, Taliesin, or a work by Rouault. To have great emotional strength a work must be the product of a burning conviction, unquenched by collaborative compromise. This conviction may indeed seem collaborative, as in the cathedrals; but the unanimity of faith in those days, the unifying symbolism of the Church, was so great that all purpose was directed toward one end. That is not so today, but today, as then, the artistic greatness of the architect, the artistic value of his product, depends neither on collaboration nor on rugged individualism, but on his sensitivity as an interpreter of his client and of his time.

If Humanity is to be the client — and I believe that is so — the question for the architect is What Kind of Humanity? And that, indeed, is the question of our time. . . .

NEW OFFICES EMPHASIZE COORDINATION

Offices of Sterling Advertising Agency, Inc. — *New York City*



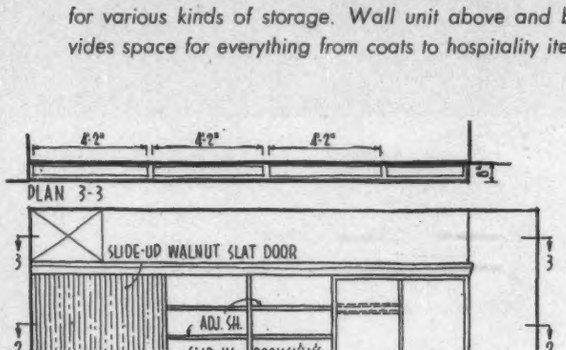
Ben Schnall

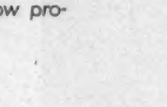
THE PLANNING OF THIS SUITE OF OFFICES was complicated by the fact that the agency was moving from four small floors to one large one. The architects' first task, therefore, was to set up a logical and space-saving traffic pattern for interdepartmental operations. In addition, they were asked to provide a new centralized filing system for art work, etc., and to give the account executives attractive and functional quarters. The architects also served as decorators, and designed much of the furniture for the executive offices (see pages 170–171).

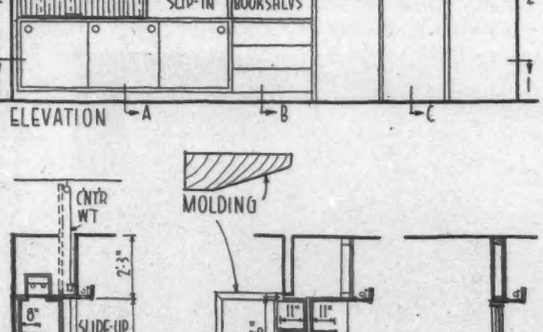
Louis Hatkoff Associates
Architects

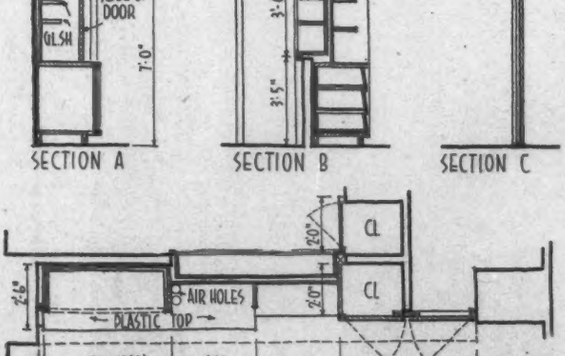
Above: left, conference room; right, corridor between offices of account executives and their assistants. Opposite and below: reception room and entrance foyer. Ceilings throughout are suspended, with acoustical tile block. Floors are rubber tile in reception room, corridors and work areas, carpeted in executive offices

For the executive offices the architects designed special units for various kinds of storage. Wall unit above and below provides space for everything from coats to hospitality items

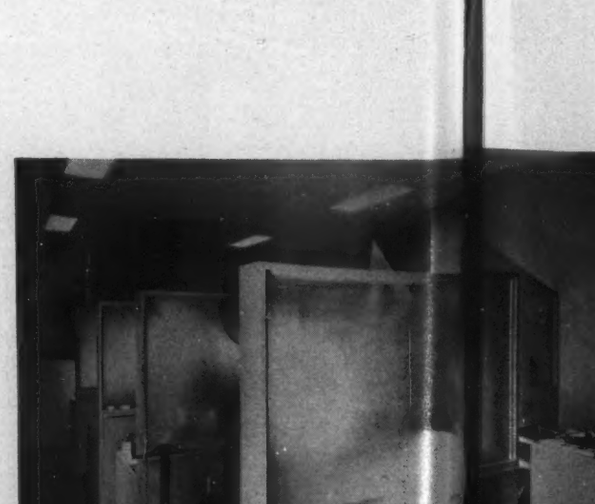


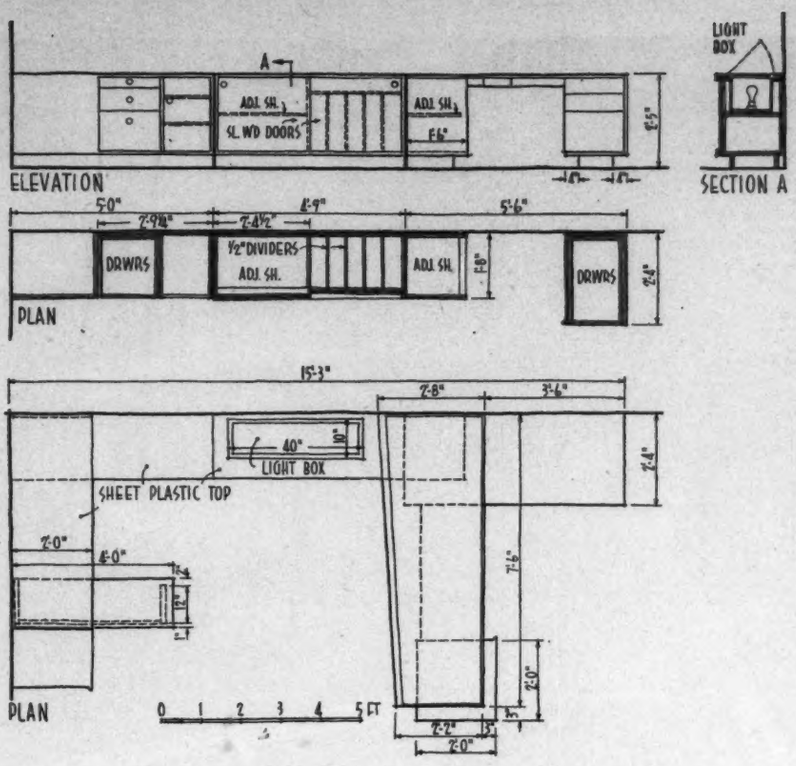






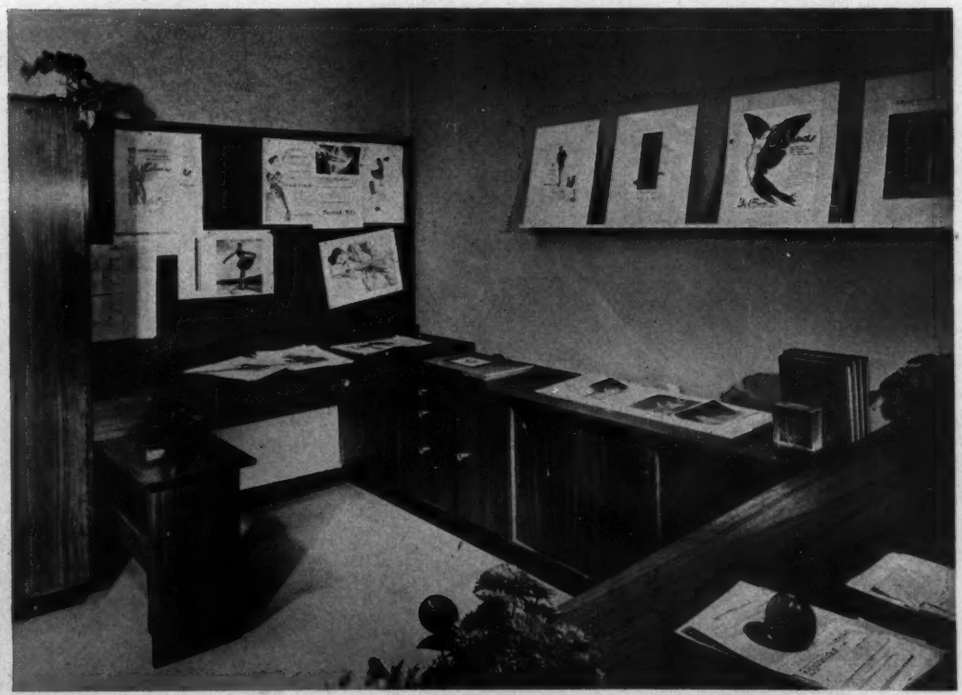
The typical account executive's office (above and opposite) has wall rack and cork bulletin board for presentations and display. Art department (below) is partitioned into individual cubicles to give each member of the staff privacy and tack-up space

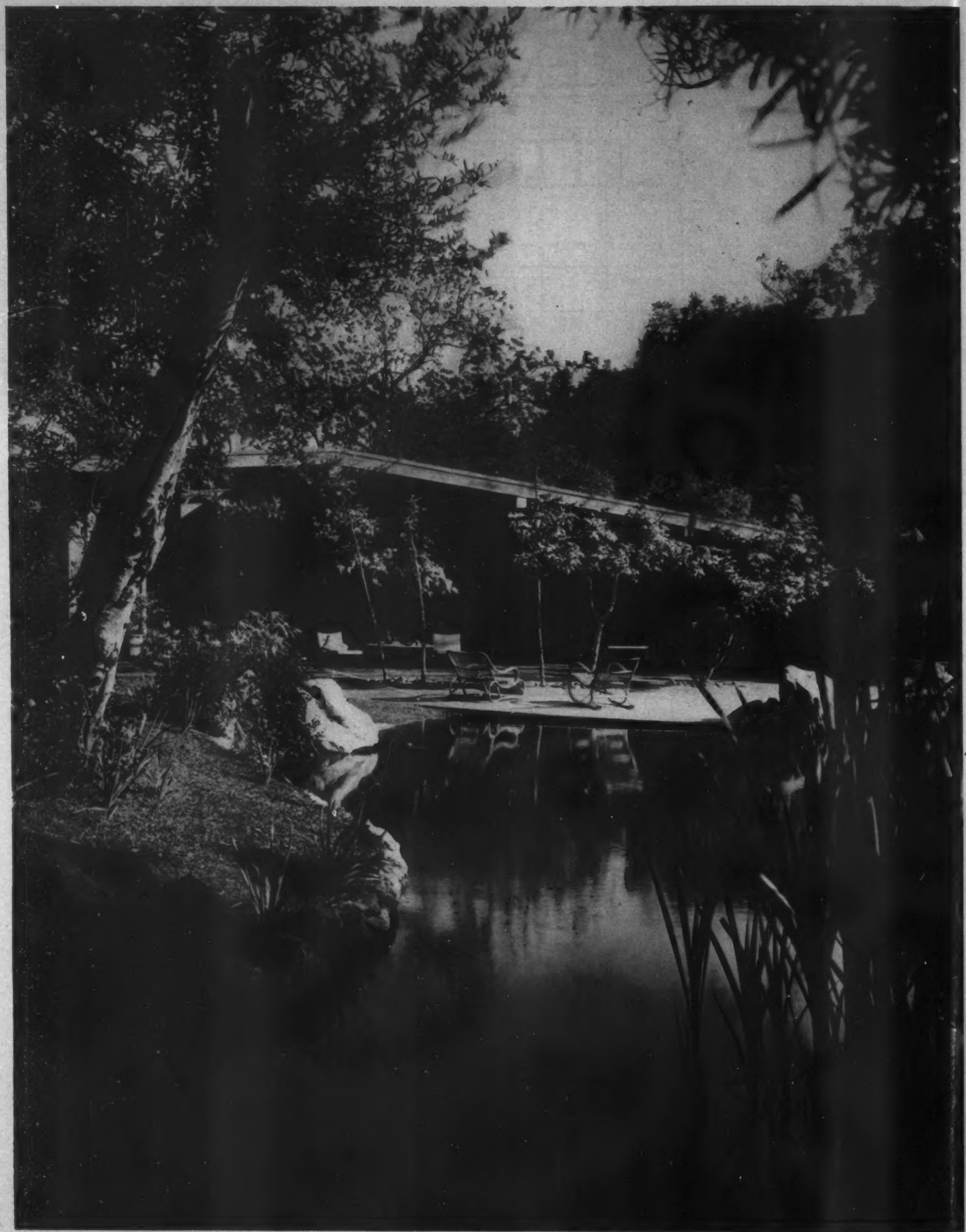




Account executives' work area, specially designed by the architects, consists of work desk with drawers and storage space, a 7-ft long conference desk, vertical and horizontal storage cabinets, and a built-in light table

Ben Schnall





Maynard Parker

FOUR HOUSES WITH EXCELLENT SITES

1. CALIFORNIA: LANDSCAPED CANYON

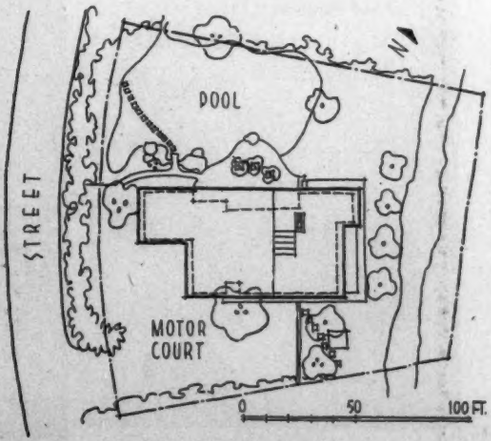
Residence of Mrs. Zola Hall, Los Angeles — *Edla Muir, Architect*

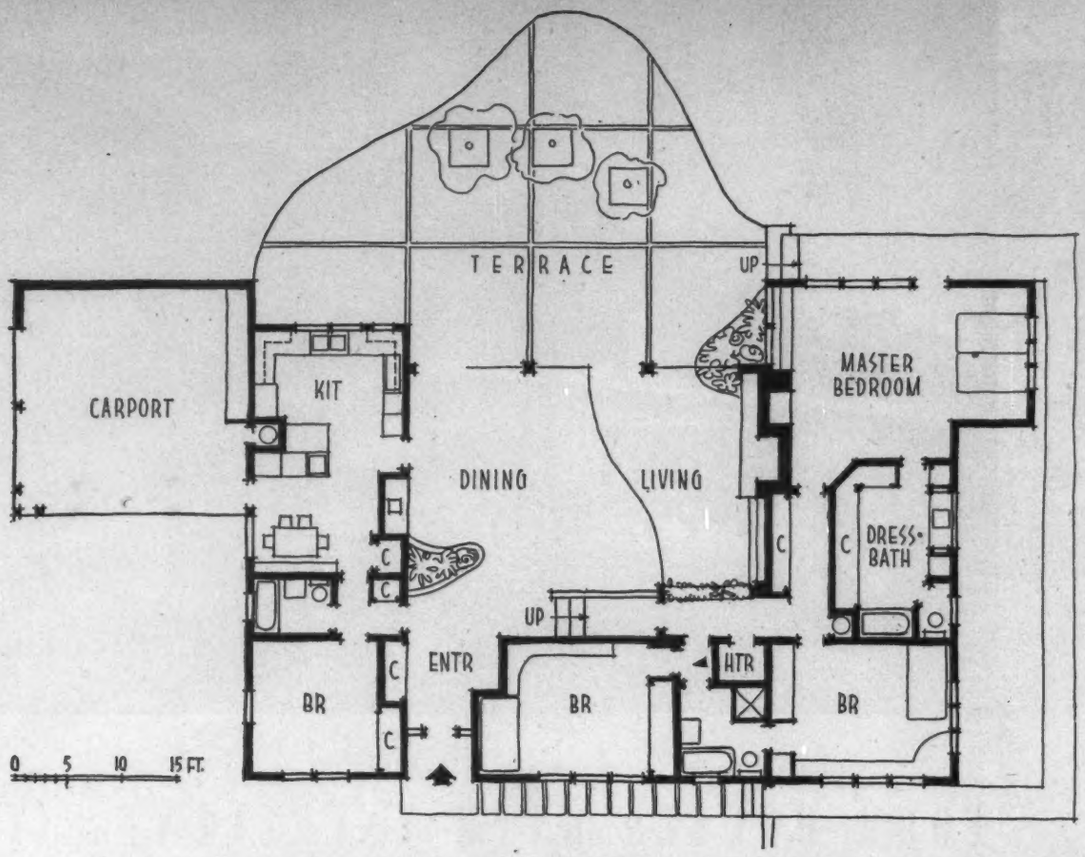
Edward Huntsman, Landscape Architect

THIS CALIFORNIA HOUSE was designed not only around a lovely site, but around a natural landscaping plan as well. The canyon in which it is located was once used for a botanical project; much of the planting and the foundations of the pool were already in place when the owner bought the property.

The house was placed with its long side facing the pool; living room and master bedroom are on this side, opening to a terrace cantilevered over the pool. The children's rooms are close to the main entrance. Since the children are still small, ease of maintenance was an important consideration in the design of the house, and especially in the selection of materials. The entrance hall, for instance, is floored with acid-stained concrete; rough troweled and waxed, to minimize the carrying of dirt into the main part of the house.

Construction is wood frame on concrete foundation. Exterior walls are random width, saw-surfaced redwood. The house won an Honor Award in the recent Southern California A.I.A. Honor Awards Program.



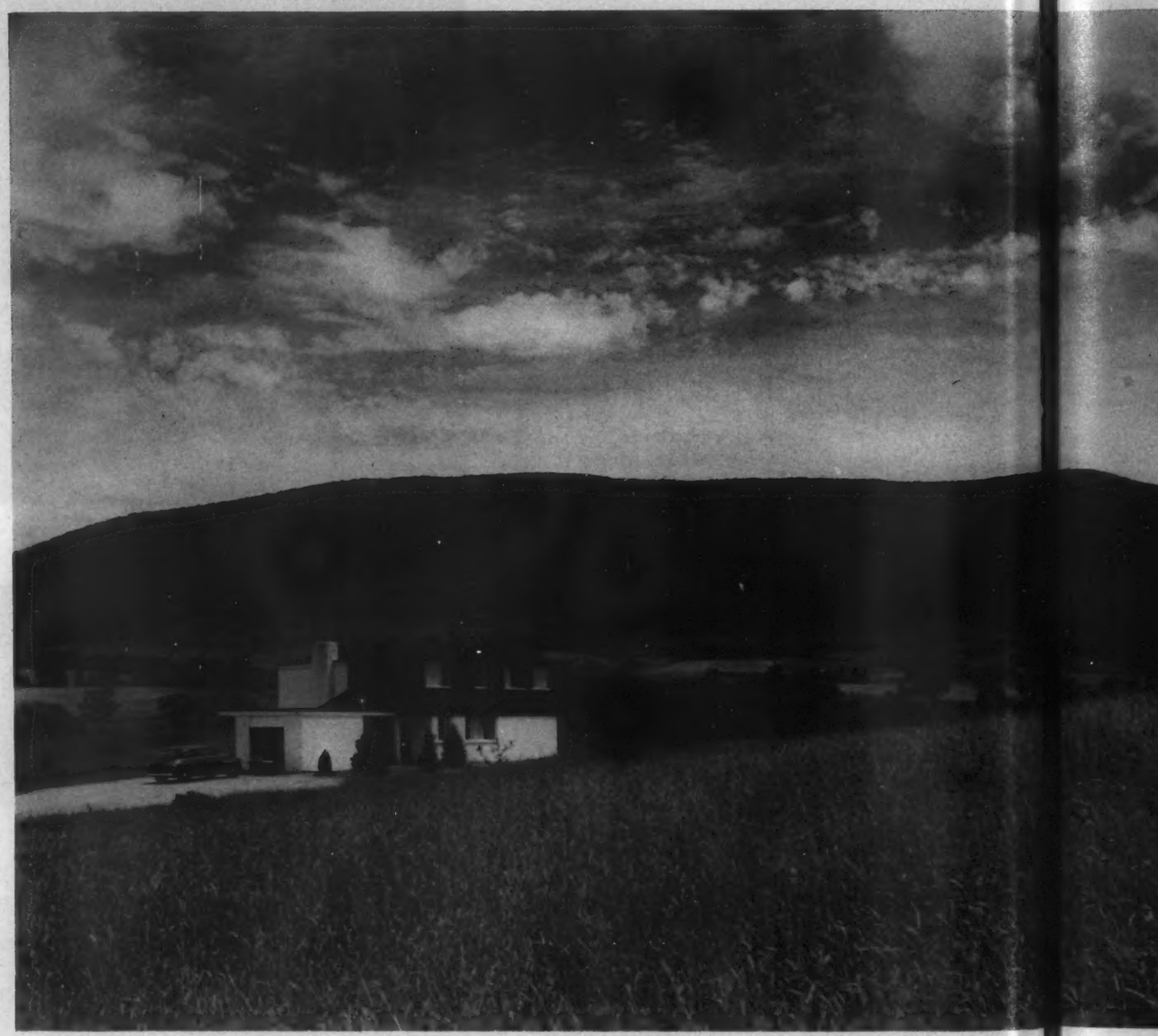


Skylight in living room was an afterthought, the architect says. "During construction," she explains, "tops of eucalyptus trees were visible between rafters and were so effective that we installed clear, polished wire-glass instead of sheathing and roofing." Living room ceiling is Douglas fir, saw-surfaced and painted one coat, then wiped off to give a gray stained look; walls are redwood

One of owner's requirements was a housekeeper's room strategically located for supervision of the children, and suitable for future family use if desired; placement next to kitchen and across entrance hall from children's rooms was ideal solution. Bedroom hall was opened up with planting box and rail to add to apparent size of living room and at same time bring light to the hall. A motion picture screen on a roller is installed above the bar in dining area (see plan); projector is operated from closet in hall at opposite end of the room, with bookcase conceiling projector ports. Note excellent storage space all through the house, and convenient pass-through from kitchen to terrace

Maynard L. Parker

2. MASSACHUSETTS: ROLLING HILLS



Residence of Mr. and Mrs. Albert Keep

Williamstown, Massachusetts

E. H. and M. K. Hunter, Architects

LOOKING AT THE SWEEP OF ROLLING fields in the photo above, it is not hard to imagine why the owner laid down as his chief requirement a house with an open feeling.

The architects used the sloping site for a living room wing of one and a half stories and a two-story kitchen-bedroom wing. The desired openness was achieved mainly in the intermediate-level, high-ceilinged and spacious living room which has one wall entirely of glass; at one end of the room stairs lead up to the balcony connecting the second-floor bedrooms and study, and down to the first-floor library-dining room

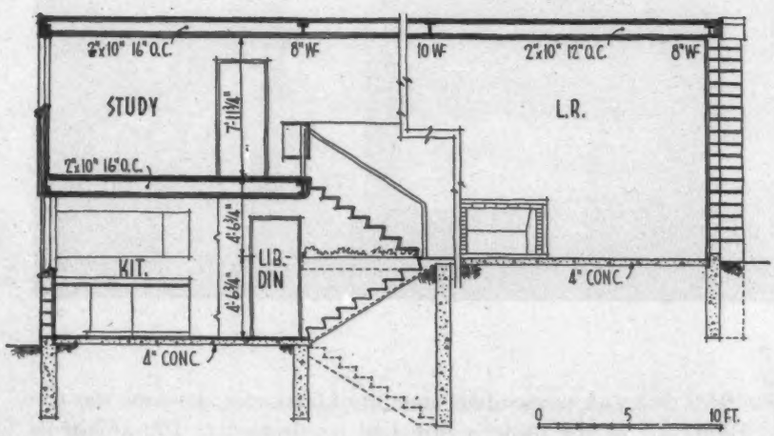
Joseph Molitor

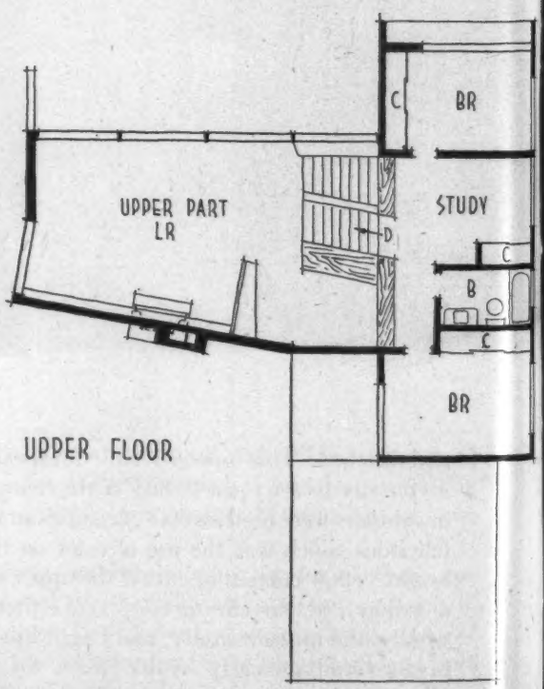
and kitchen. This upward and downward view adds materially to the open feeling of the living room. Built-in cabinets were used instead of railings on the balcony. A felicitous touch was the use of color on the balcony: a bright yellow curtain to cut off the upper story entirely; a bright red curtain to close off, either partially or wholly, the upstairs study; and bright blue burlap walls in the study, clearly visible from the living room. These pure-color curtains and burlap can be used in various combinations to give color to what is, in effect, one wall of the living room; the rest of the room is in quiet grays and whites.

A tremendous amount of book storage space was one of the owner's principal requirements. The architects supplied floor-to-ceiling shelves on two sides of the living room, and additional shelves in the library. Then they made a bet with the owner that he couldn't fill so much space. They lost the bet!

Foundation of the house is poured concrete, framing is wood. Exterior walls are rift-sawn fir, stained. The house is fully insulated and has radiant panel heating — in floors on lower level and ceilings on upper. The living room has ventilating louvers under the large south windows.

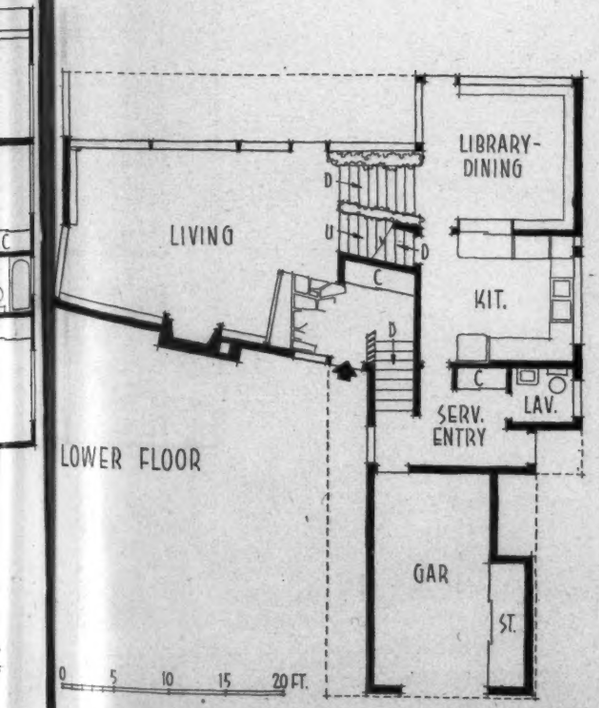
One-and-a-half story living room wing opens to south terrace; slatted roof overhang protects glass wall on this side from too much sun. Below windows are ventilating louvers



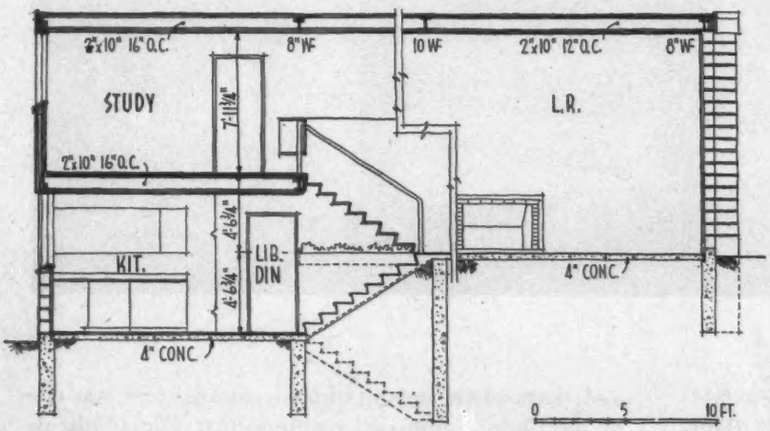


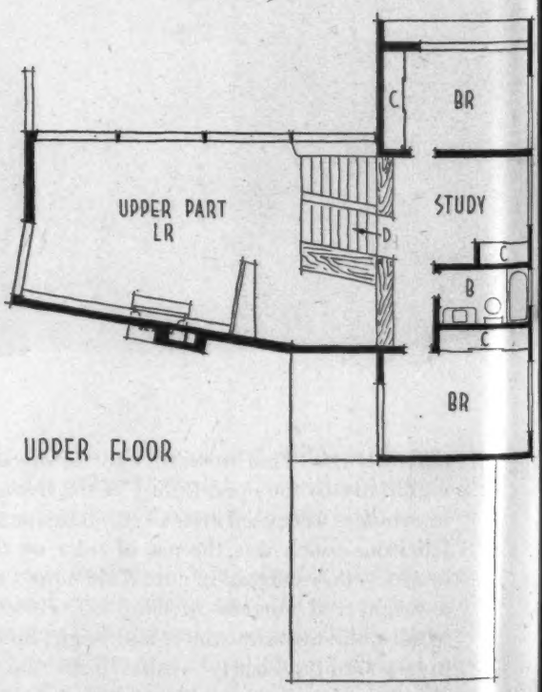
Joseph Molitor

Above left: on north side, house slopes steeply down toward garage on lowest level; living room wall here is windowless brick, with floor-to-ceiling bookshelves on interior. Above: at southwest corner of house, one bedroom projects over lower-level library-dining room (below)



One-and-a-half story living room wing opens to south terrace; slatted roof overhang protects glass wall on this side from too much sun. Below windows are ventilating louvers





Joseph Molitor

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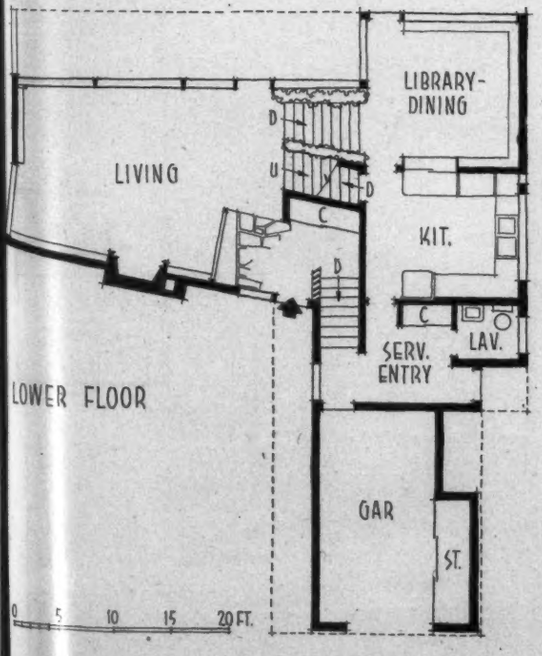
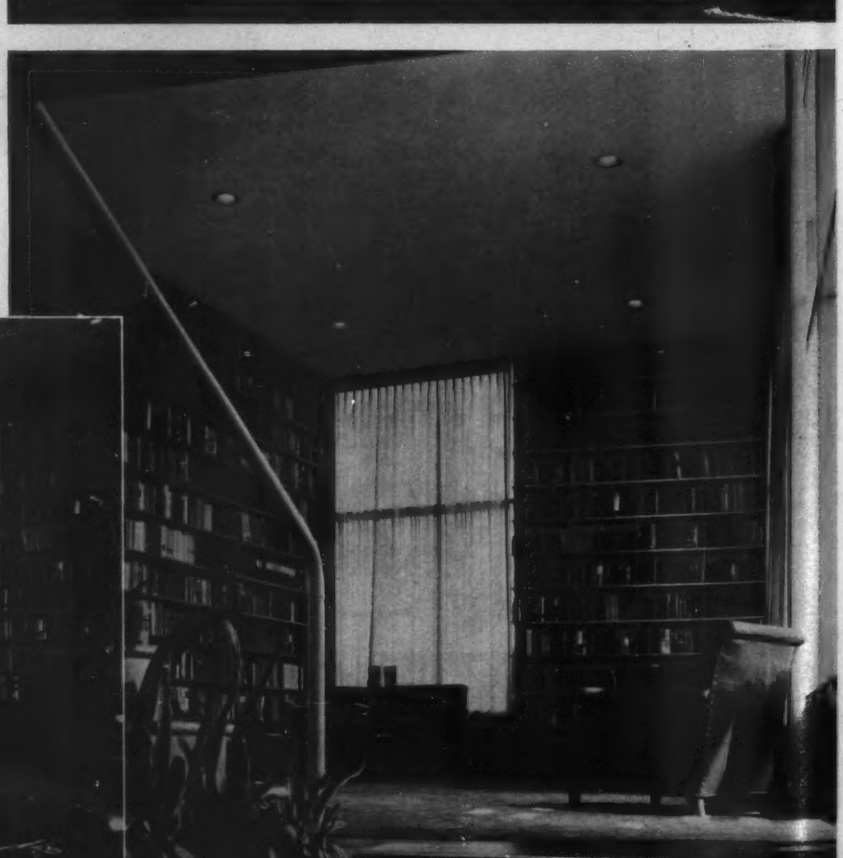
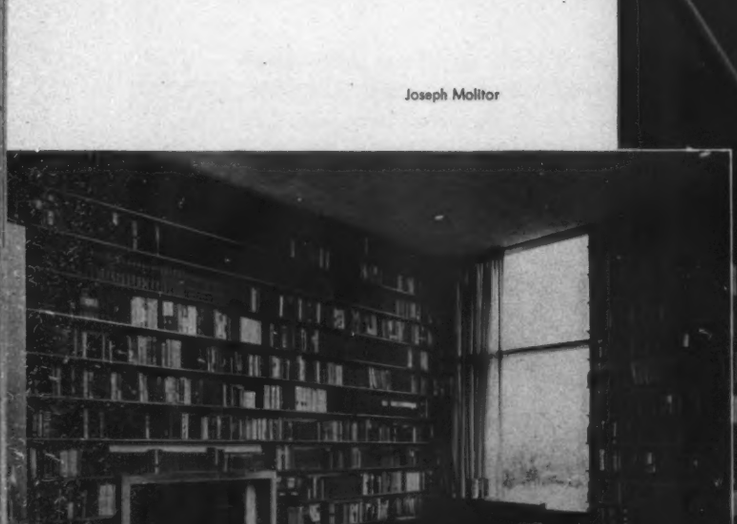


Interior of the house is much concerned with books, as these photos show. Right: looking from living room up toward balcony study and bedrooms, and down to library-dining room. Below, and below right: living room has floor-to-ceiling book-shelves on two walls, completely filled

Joseph Molitor





3. ALABAMA: ROCKY LEDGE

Residence of Dr. and Mrs. W. C. Kennedy
Florence, Alabama

Turner & Northington, Architects

THIS SMALL ALABAMA HOUSE was planned as a lakeside retreat for its owners — and a retreat it certainly is. It is situated on an almost inaccessible rocky ledge jutting out into Lake Wilson; a private drive, some two miles long, terminates in a turnaround and parking area 25 ft above the house itself. From there, limestone steps wind down the side of the rock to the entrance terrace.

As originally planned, the house was to be built in two stages and used only for weekends until the bedroom wing was added. Actually, however, it is already being used as a year-round residence. When the new wing is added, it will be an entirely separate structure occupying an adjacent ledge; a glazed bridge spanning the deep crevasse between ledges will connect it with the living room wing.

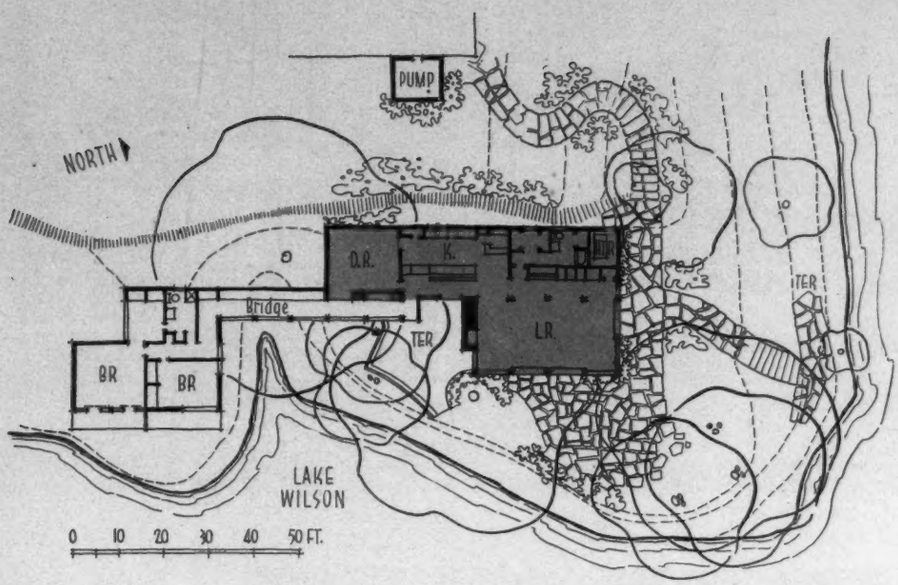
The house is of wood construction with timber connectors used in all connections between beams, columns and rafters. The exterior is cypress, oiled and bleached. Interior walls are cypress and plywood, both natural and wiped. Floors are white concrete with terrazzo strips. The roof is covered with white marble chips — partly to provide a heat reflecting surface, and partly because the first view of the house (from the parking area) is of the roof.

Jack Holmes

KENNEDY HOUSE

The house is surrounded on three sides by terraces, each of which serves a different need. Eventually there will also be a lower terrace at water's edge, where a boathouse is to be constructed (see plan)

Living room has three 8- by 8-ft sliding glass doors along one side. Fireplace wall is stone, with copper trim; ceiling is of 2- by 2-ft striated plywood squares, laid opposing. Opposite: piano is recessed into the wall, with keyboard exposed and louvers above to direct sound into the room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Jack Holmes

4. NEW YORK: RESERVOIR VIEW

House in Westchester County

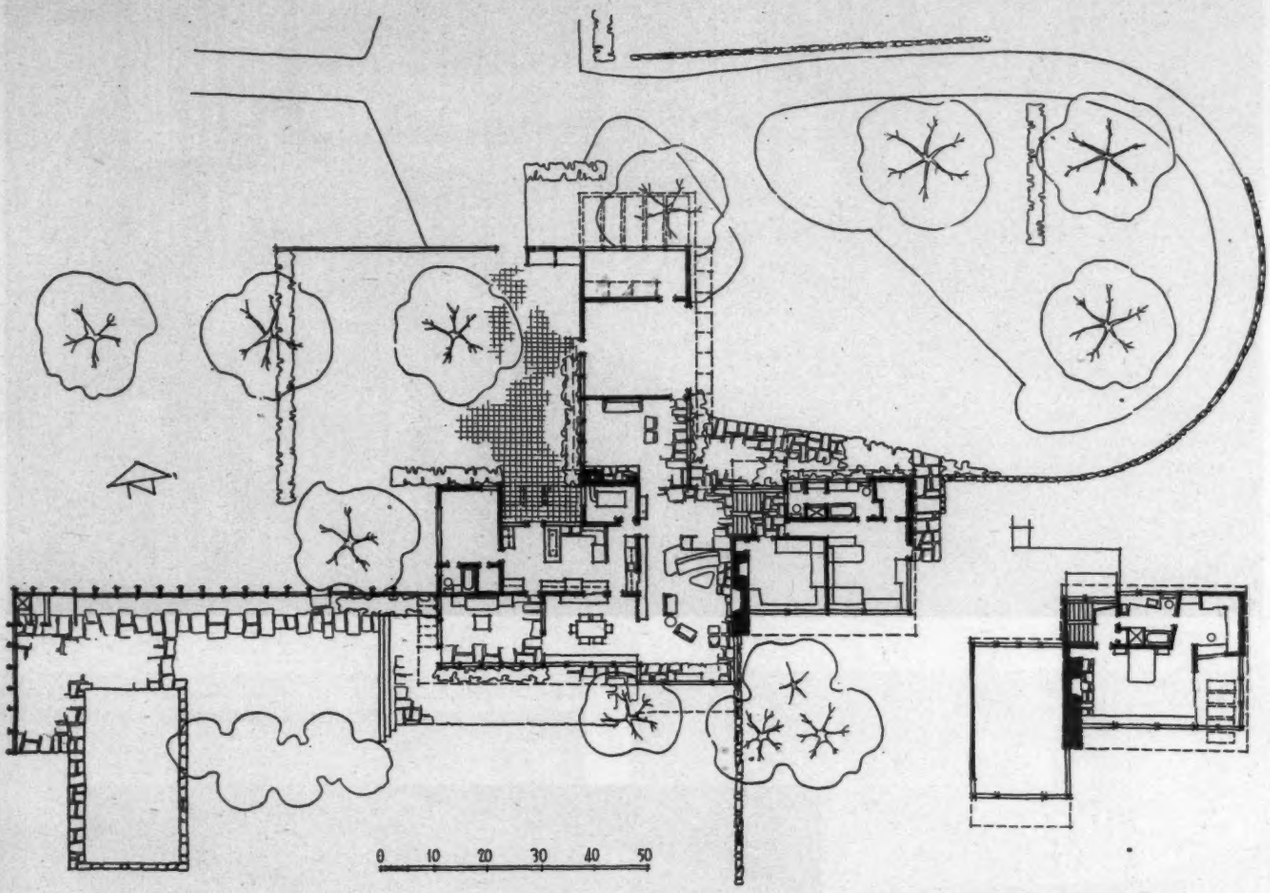
Edelbaum & Webster, Architects

Landscape Architect: Entourage Inc.
James C. Rose, Consultant

Contractor: Joseph Moje

LIKE MANY CITY DWELLERS who move to the country, the owners of this house purchased a site with a pleasant view and instructed their architects to make the most of that view. The 12-acre property, within commuting distance of New York City, is in a rural area where good hunting and fishing abound; it consists of rolling fields fringed with trees, and overlooks a city reservoir and pine-covered hills.

The house was placed on the brow of a southern slope, 1500 ft back from the road and facing the reservoir. Its T-shaped plan not only gives all main rooms a share in the view, but also separates the service and approach areas from the living area. The bedroom wing, at the east end of the house, is two-storied, with the master suite half a story up from the living room, and the son's room and study-guest room a half story below the main level. The master suite has its own sun terrace, dressing room and spacious bath (with two wash basins — one at standing height, the other at sitting height). The lower-level study-guest room has a stone fireplace, built-in desk and files, right-angled daybeds with a corner blanket-storage unit, and built-in drawers. The son's room has its own entrance, and even has a cork wall for pin-ups.



Robert Damora

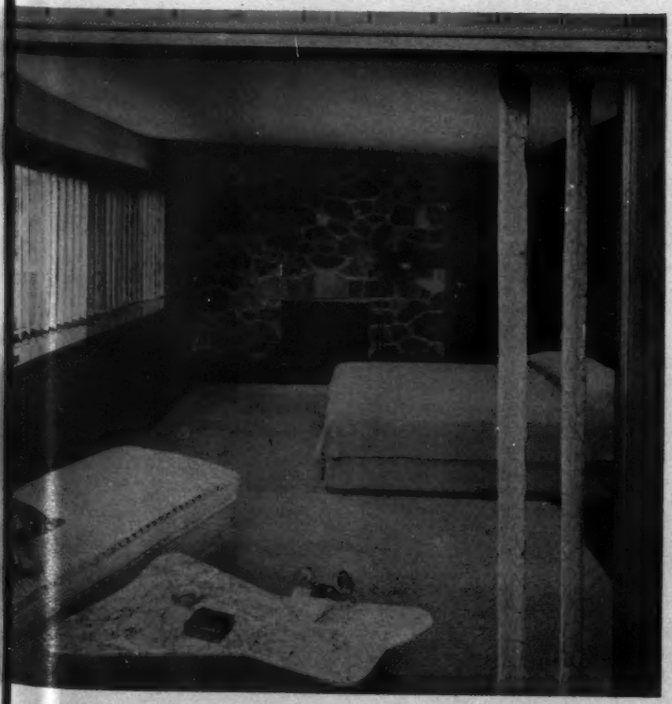
Local rough stone and natural cypress boarding were chosen for the exterior to harmonize with the site. Foundations are stone and concrete block; framing is fir

Living room has three exposures, generous storage space for books and records, music controls at table height, and a bar with pantry access. Rough stone of fireplace wall was selected to contrast with smooth expanses of glass, and stone border of floor to emphasize texture of carpet and fabrics

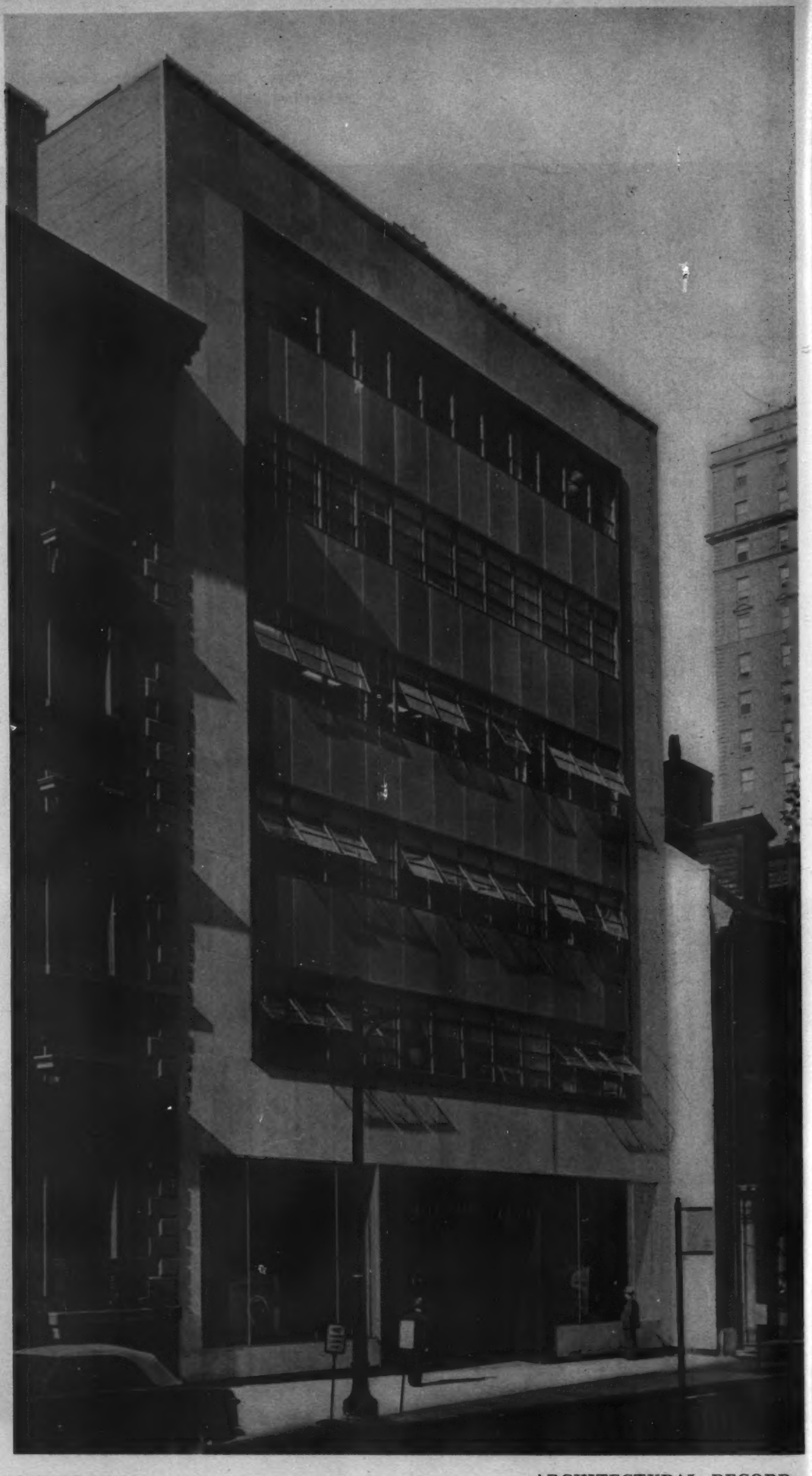
Below: dining area can be curtained off when desired; change in ceiling height makes it almost separate room

Robert Damora

Below: left, the master bedroom, half a story above living room, has a stone fireplace and a private sun deck; right, kitchen cabinets are birch, made on job



REMINGTON-RAND INC. OFFICES



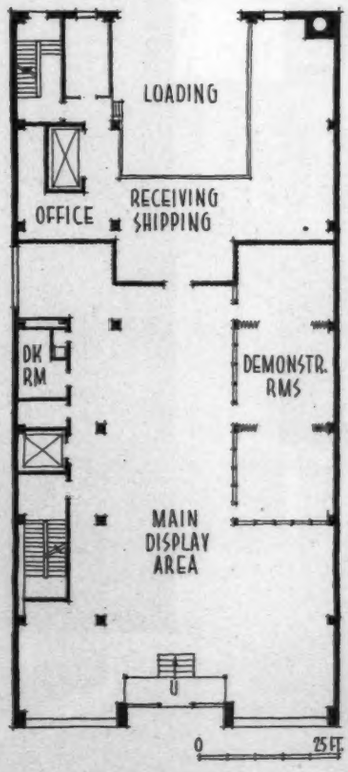
Cortland V. D. Hubbard

The first floor of the Remington-Rand building (plan below) houses main sales area, utilizes secondary street at rear for shipping and receiving

OFFICES CONSOLIDATE ACTIVITIES FOR BUSINESS MACHINE SALES

Philadelphia, Pennsylvania

Thalheimer and Weitz, Architects

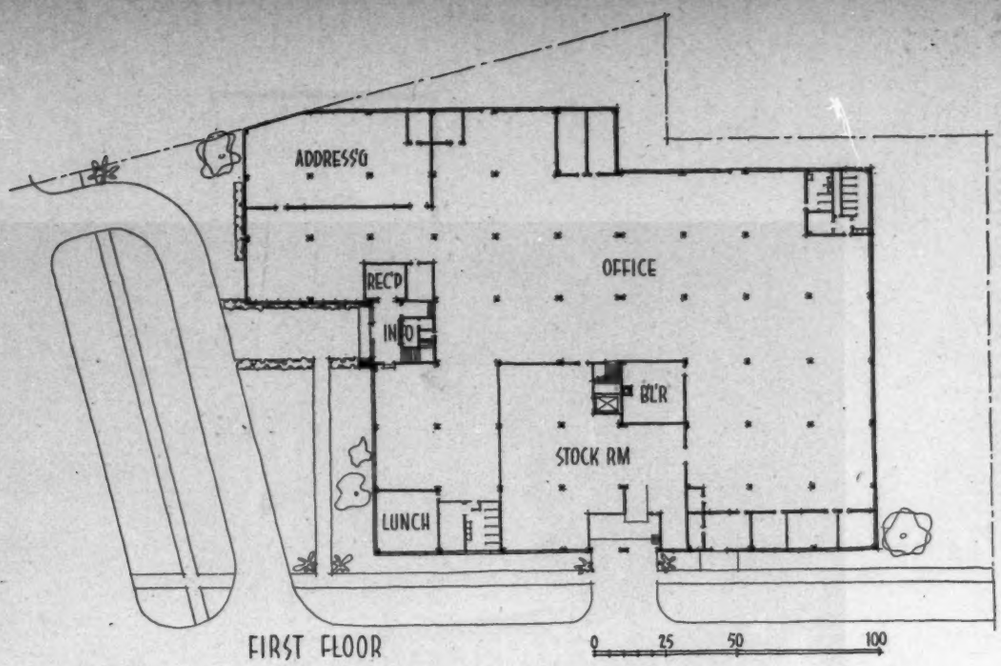


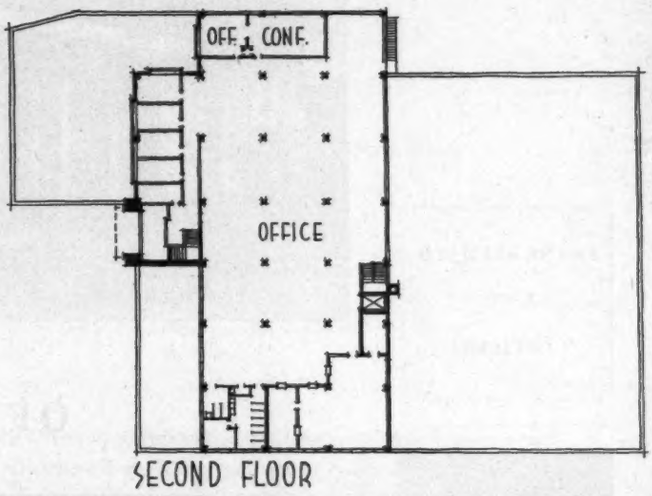
THE MULTIPLE ACTIVITIES of a business machine sales office — display, demonstration, administration, stock storage and maintenance — have been brought together here in a building almost as neatly styled as the machines it exhibits. The architects have circumvented the often heard debate on whether a multi-story building — even a small one as this — should be expressed vertically or horizontally, and have simply grouped windows and aluminum spandrels into a large panel with a cast granite frame.

All six floors are similar in plan, with utilities and toilets grouped on the stair wall. The rest of the areas are divided into offices and general stock space on the 2nd, 3rd and 4th floors, a maintenance division on the 4th, and stock and supply storage on the 5th and 6th. The building is constructed with steel frame, common brick exterior walls, concrete floor slabs. The facade is faced with limestone. Interiors have painted plaster walls, asphalt tile floors and hung plaster ceilings.

ESQUIRE-CORONET OFFICES

Hedrich-Blessing





LOW COST OFFICES FOR A MAGAZINE DIVISION

Boulder, Colorado

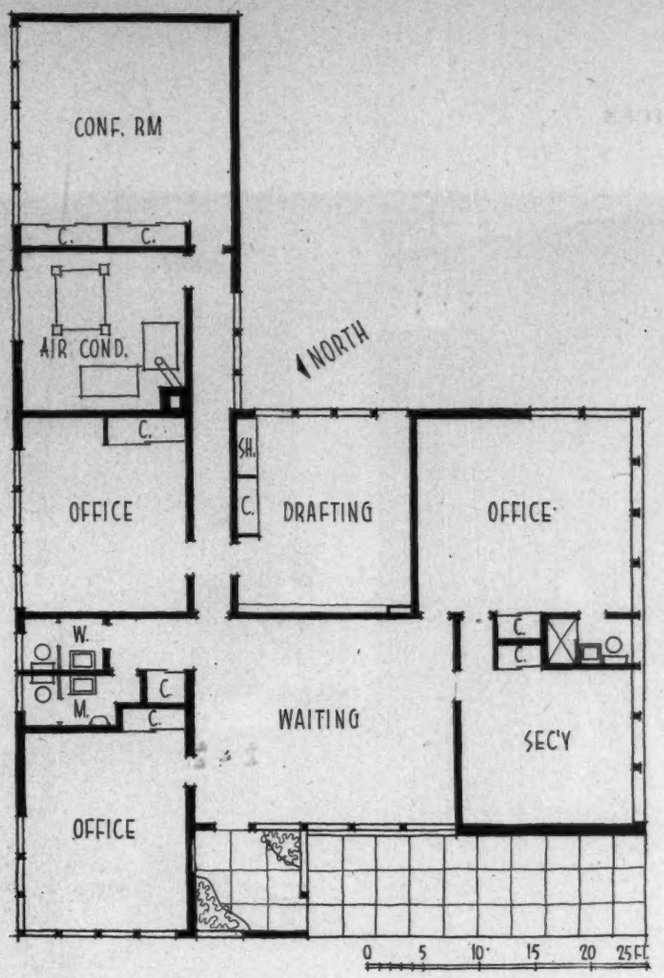
Ralph Stoetzel, Architect

THESE EFFICIENT, PLEASANT OFFICES for Esquire-Coronet Publications' Circulation Department are typical of an apparently growing trend for large organizations to relocate many of their activities in less congested cities — a trend which gives mutual benefit both to the cities and the businesses concerned. In this case, Esquire-Coronet desired to increase its operating efficiency by transferring the Circulation Department from company headquarters in Chicago. To attract an operation of this type, and thereby increase employment and revenues, the City of Boulder and its Chamber of Commerce donated a site for the offices. The architect was given the problem of designing a suitable office building at the cost of an industrial type building. This was solved by providing an open, flexible plan and a structure of reinforced concrete. Exterior walls are natural finish concrete, with some use of stone and brick at the entrance. Office interiors are finished with glazed tile walls, asphalt tile floors and acoustic tile ceilings. A curved driveway and a two-story, open-front lobby were used to ease the transition from the main street, which lies 10 to 15 feet above average property grade of

Ben Schnall

FRANK STAMATO
& CO.
OFFICES

OFFICES FOR AN AGREEABLE



CONTRACTOR

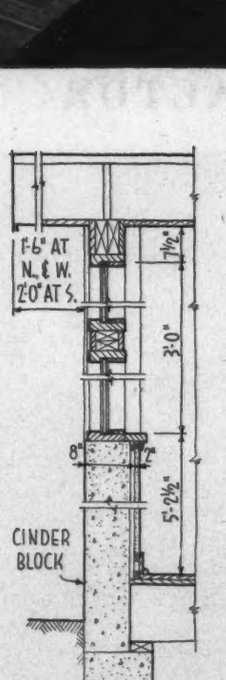
Lodi, New Jersey

George Cooper Rudolph, Architect

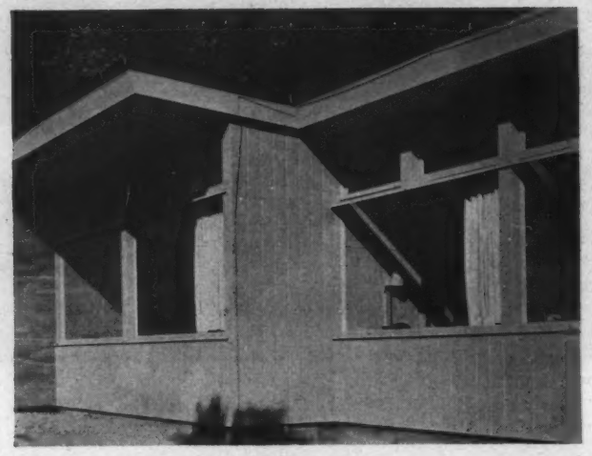
THE OWNER of this office building, a New Jersey road builder and garbage collection contractor, requested only three things of the architect: the correct number and sizes of offices, air conditioning, and his name visible from a highway 200 yds to the south. All questions of design, esthetics and furnishings were left in the architect's hands. After completion of the contract, Mr. Rudolph says of his client, "Of course now he is broke, but very proud."

Ben Schnall

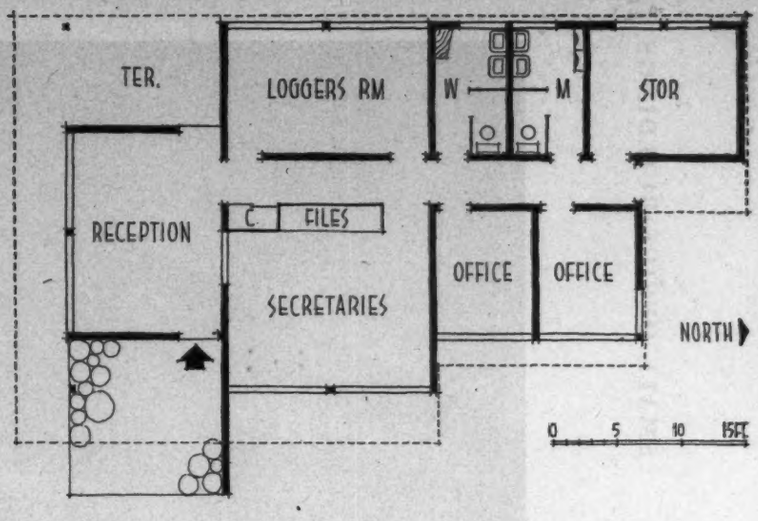
The building amply fulfills the client's few stipulations and provides extremely comfortable and pleasant areas for staff employees and clients. A planted entry leads into the waiting room, which joins directly with the large-size offices and the drafting room. The conference room is placed at the end of an ell for greater privacy and quietness. Construction is straightforward and simple (see wall section, right). Exterior walls are concrete block painted white, stone, and cedar-stained vertical wood siding. The large sign is on an extended wall to integrate it with the general design — and is quite visible from the highway. Interior partitions are wood frame, finished with plaster or wood veneer. Floors are rubber tile. Acoustical plaster is used on the waiting room ceiling. Landscaping for the project was done by Janet Darling.



The interiors were designed by Alexander R. Stavenitz, an associate of the architect, and include furniture by George Nakashima, a gesso mural by Louis Ross



BRADFORD VENEER AND PANEL CO., INC. OFFICES



PLYWOOD MILL OFFICE FEATURES OWN PRODUCTS

Bradford, Vermont

E. H. and M. K. Hunter, Architects

THE CLEAN, UNAFFECTED DESIGN of this small plant office gives subtle emphasis to plywood products made by the owners, as well as fulfills its primary purpose of giving the office staff more pleasant working quarters. The building replaces use of an obsolete house as a center for paying factory employees and receiving customers, visitors, and lumbermen with their reports. The structure has framing of eastern spruce, concrete floor slab, and vertical pine shiplap siding painted gray. Interiors are finished with a variety of plywood panels. The spur wall at the front displays waterproof plywood and gives added sun protection to adjoining offices. Noisier working spaces have acoustical tile ceilings instead of plywood. All detailing was specially done to enable the regular staff of maintenance men at the mill to do all purchasing and labor. Heating is by a one-zone, radiant floor panel system with a converter, so that steam from the main factory could be used. Most of the furniture used is of molded plywood and carries out the general plywood theme.

Joseph W. Molitor

BREWERY OFFICES DESIGNED TO

Hedrich-Blessing

MILLER BREWING COMPANY OFFICES

TO BETTER PUBLIC RELATIONS

Milwaukee, Wisconsin

Brooks Stevens Associates, Designers

Arthur L. and Arthur W. Seidenschwartz, Architectural Consultants

Dailey, Brenner & Schreiber, Management Engineers

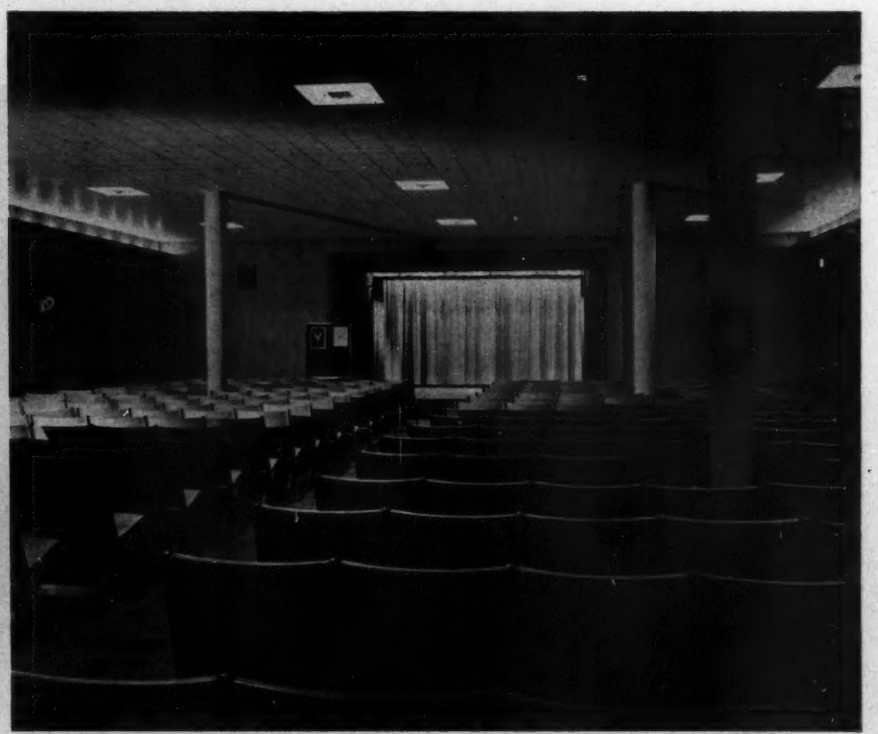
THE CONSCIOUSLY DRAMATIC LIGHTING and lobby design of this new administration building for the Miller Brewing Company were planned to serve as an arresting focal point in the midst of the older, traditionally-styled plant buildings. The owners desired the building to be of the same basic materials — beige brick with limestone trim — as the others, but also wished it to be modern, functional, and to have as much merchandising and public relations value as possible. With this in mind, the designers, who also serve as consultants to the firm on all phases of merchandising design, were commissioned to give "complete consideration" to the general architecture, furniture design, fabrics, colors, *objets d'art*, and general planning for the industrial murals executed by Edmund Lewandowski.

The main floors of the building are planned around a central open area for general clerical groups, with executive offices ranging the outer perimeter. Most of these outer offices are designed with movable metal partitions, and can be altered in size on 4-ft modules. A penthouse-type office with balcony for the president is located above the corner lobby and an auditorium equipped for movies is in the basement. The building is of steel frame construction with brick exterior. Interior partitions are cinder block, plastered and painted.

Hedrich-Blessing

Principal executives' offices (above, directly at right) and Board Room (right center) have specially designed plastic-surfaced furniture, oak veneer paneling, gold carpets. Other colors — gray greens, tile red, amber — were picked from the company's packaging colors. All metal work is two-tone brass and stainless steel to recall the brass beer and steel foam of an abstract symbol on the facade. The new building has resulted in a sharp rise in Brewery tour attendance

Central clerical area (above) is made comfortable with fluorescent lighting, air conditioning, acoustic ceilings. Below: basement auditorium



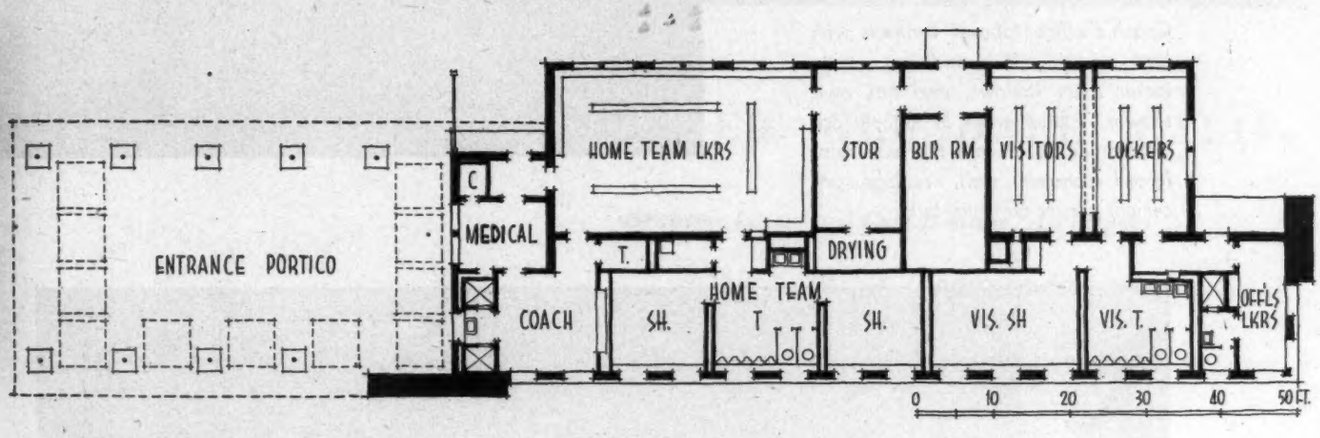
FIELD HOUSE, VETERANS MEMORIAL FIELD,

Cost of construction and the building committee's insistence on easy and inexpensive maintenance were important factors in choice of materials. Foundations are reinforced concrete; exterior walls are cinder concrete and brick, trim is cast stone

Joseph Molitor

GREENFIELD, MASS.

James A. Britton, Architect



Wm. Cushman & Son, Inc., General Contractor

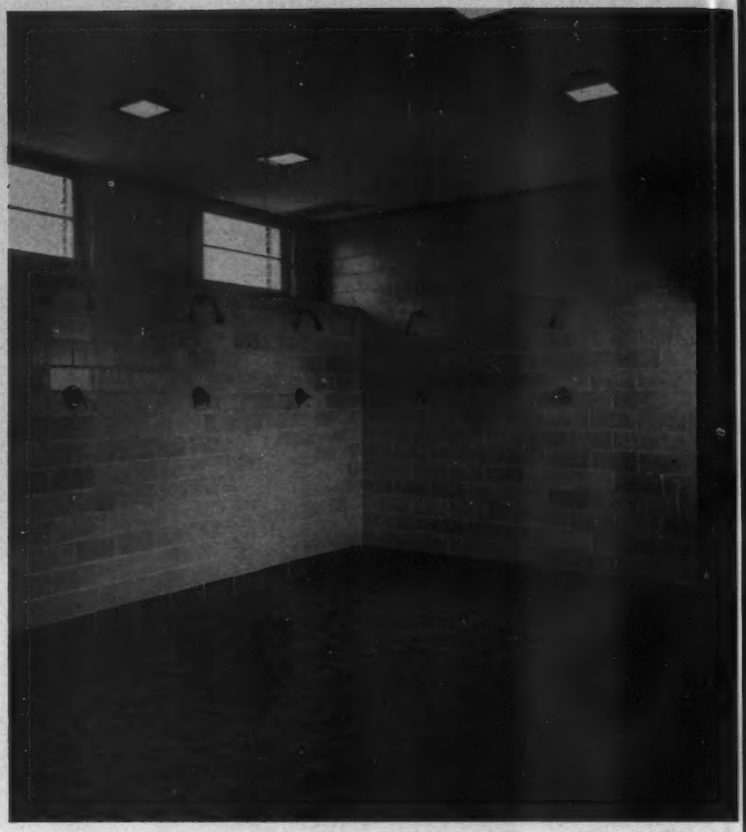
Richard J. Harrington, Heating and Ventilating Engineer

FOR ECONOMIC REASONS, the town of Greenfield (population 17,000) agreed to "streamline" its new athletic plant despite the fact that most of its public buildings are Georgian-Colonial. Now that it is completed, the citizens are proud of it and both town and architect, the latter reports, "are receiving exceedingly good publicity" from visiting teams and coaches.

The building is the first to be constructed at the Veterans Memorial Field, a 20-acre park and playground area in a rapidly expanding section of Greenfield. A sports arena may be added later, and the proposed new high school probably will occupy a site adjacent to the Field. Meanwhile the present building not only houses the high school athletic teams, but also serves as a center for winter sports and summer playground activities, and is used by semi-professional teams.

Requirements of the committee in charge of the project were numerous and detailed, starting with the stipulation that the building must be large enough to meet not only present but also future needs of the community. Considerable emphasis was put on keeping team members away from the general public, and visiting officials away from the teams — hence the long portico, which serves as the public "gate" to the Field, and the three separate entrances for home team, visiting team and officials.

FIELD HOUSE



Coach's office (above) connects with both medical office and home team locker room (below), and has own shower. Interior walls throughout are glazed tile; floors are tile over reinforced concrete slab, ceilings are cement plaster on metal lath

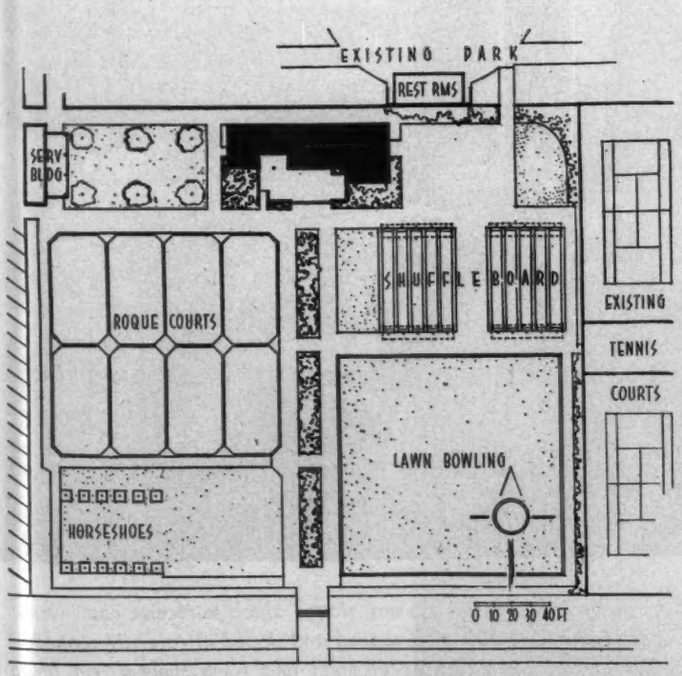
Joseph Molitor

Julius Shulman

ADULT RECREATION CENTER, GLENDALE, CALIF.

Graham Latta and Carl Denney, Architects

Arthur G. Bartin, Landscape Architect



CONVENIENCE was the keynote in the selection of the site for Glendale's Adult Recreation Center; providing varied facilities for an attendance of over 130,000 a year was the architects' problem. The site, 1½ blocks from the heart of the city, is a 300-ft-square portion of a city park, bordered on one side by a municipal parking area. The architects' commission included site planning, a clubhouse and service building, roque and shuffleboard courts.

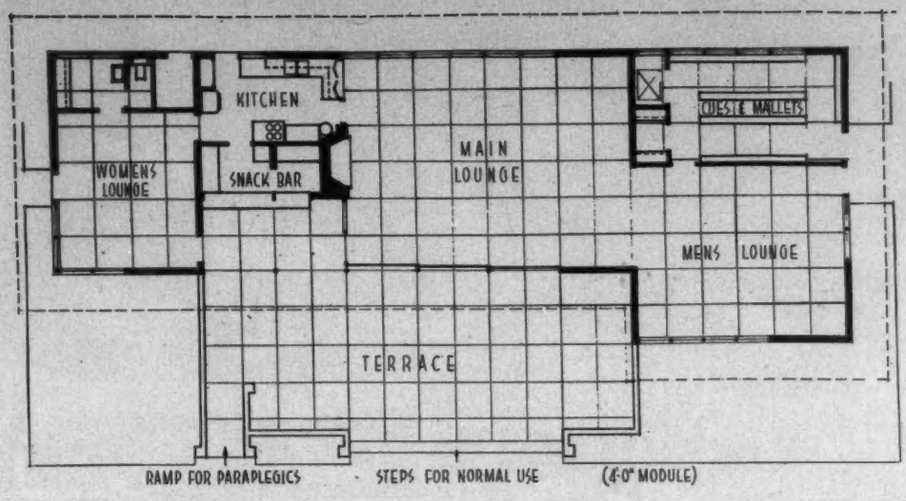
The clubhouse, planned to serve both local members and visiting teams, consists of lounge, locker room, snack bar and kitchen. The kitchen is larger than required by the snack bar to permit preparation of luncheons for guest teams during inter-city roque and shuffleboard tournaments.

The building is concrete slab floor on grade with acid stain finish. Walls are reinforced brick, brush-coated; ceilings are acoustical tile.

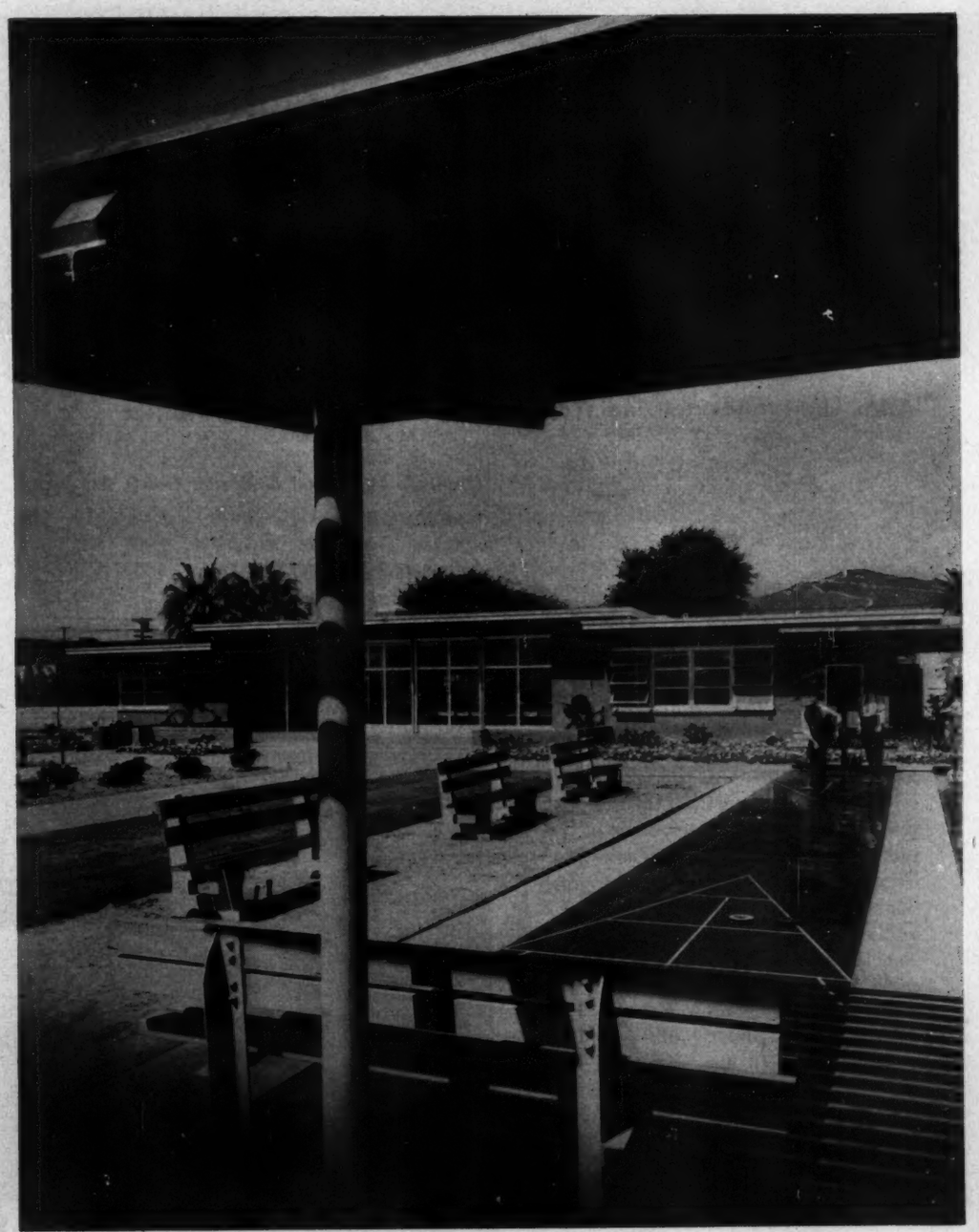
ADULT RECREATION CENTER

Clubhouse centers around main lounge which can be thrown open to paved terrace by a triple sliding door (right). Window wall on opposite side of room (above) overlooks landscaped area to rear. Locker room (below) is primarily for storage of members' individually owned mallets and cues; a few lockers are also provided for bowlers. Note (plan opposite) ramp for paraplegics at west end of terrace

Far right: concrete-based columns, slotted at top to receive cantilevered beams, with redwood louvers spaced and sloped at carefully controlled angles in opposite directions at north and south shelters, cut down summer sun on shuffleboard courts and secure maximum winter sun



Julius Shulman



Jack Holmes

MECHANIZED BUILDING TECHNIQUES COMBINED

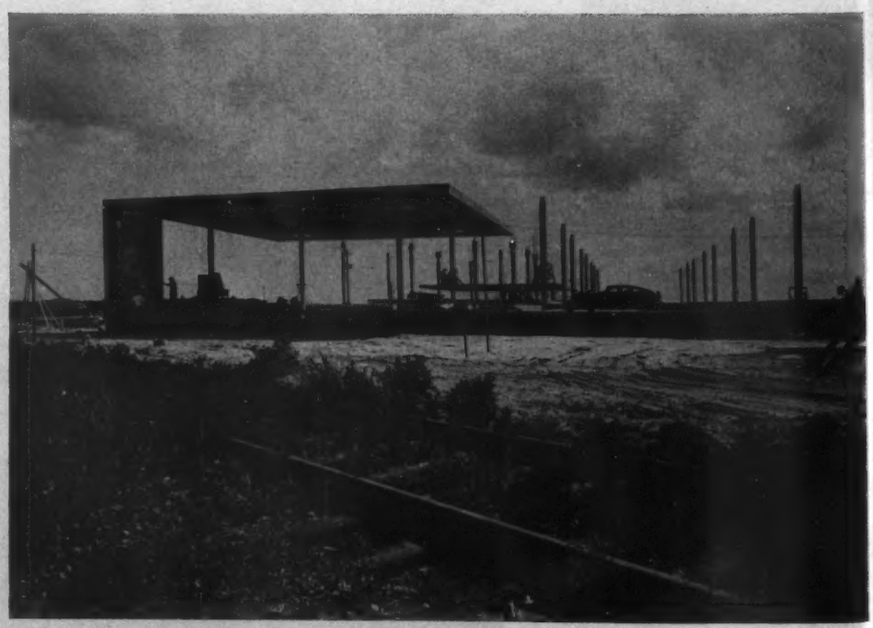
Atlas Light Industrial and Warehousing Terminal, Miami, Florida

Laurence G. Farrant & Walter Harry, Associate Consulting Engineers

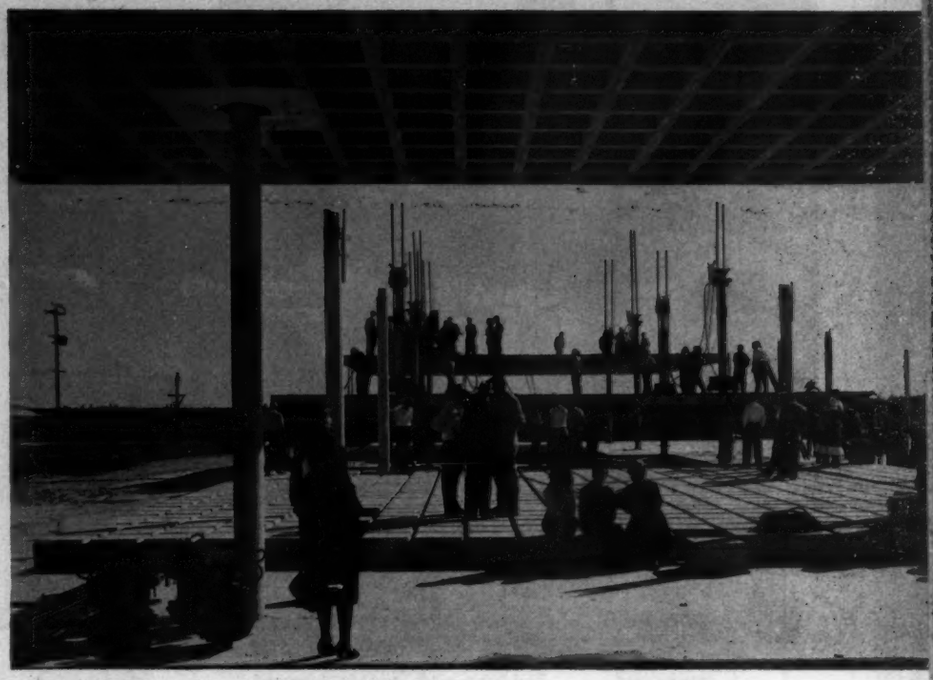
Morris Burk, Contractor

FOR SEVERAL REASONS, REINFORCED CONCRETE is finding application in a wider variety of buildings than ever before, and the main reason has been the development of mass-production techniques. Of course material shortages have given impetus to the use of concrete; but more than that, the material itself is intrinsically better, some of the unknowns of structural design have been eliminated, factory quality control methods have been introduced, and the mechanized techniques of erecting precast structural elements have, in some cases, practically eliminated on-the-job form work. This all adds up to less cost.

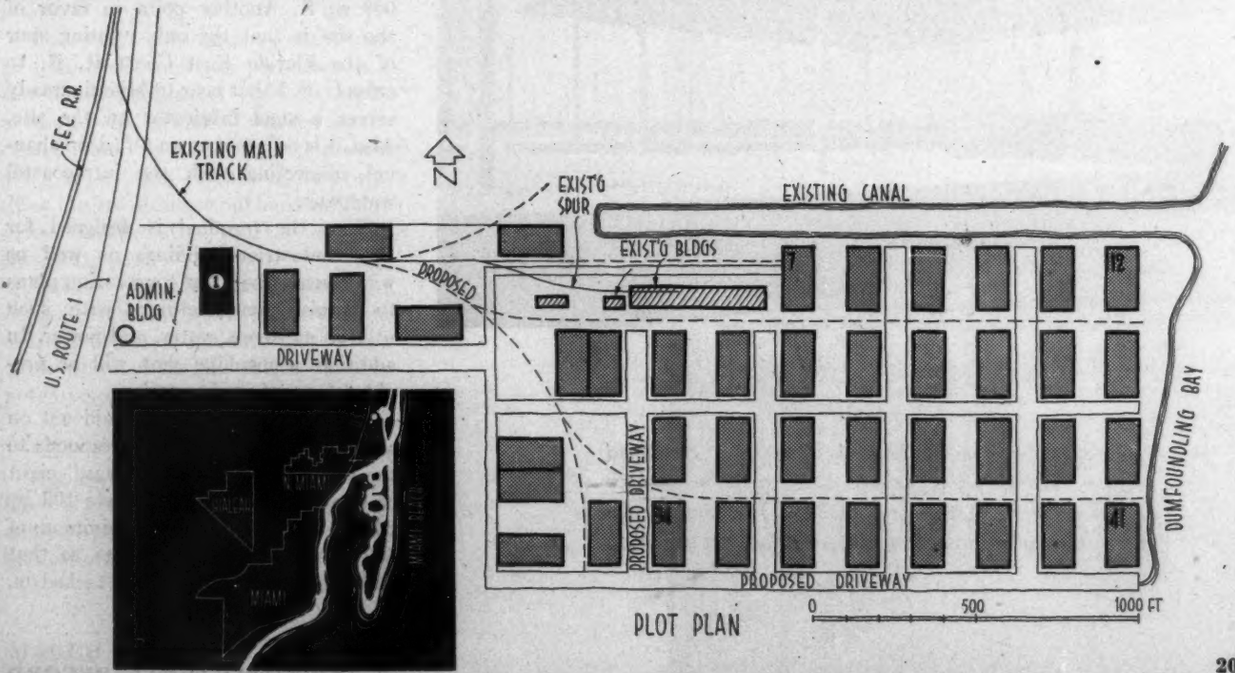
This 100 by 200 ft prototype for a series of some 40 light industrial and warehouse buildings exemplifies the mechanized approach. The engineers have integrated several already successful ideas and some new ones of their own to develop a reinforced concrete.



Two roof slabs of the first building in Atlas' Miami warehousing and light industrial terminal were raised during a special demonstration on Sunday, February 3. A third slab had been lifted before, and blocks for a fourth lay on the floor slab. A newspaper story attracted a large crowd of sightseers, but also among them were many interested architects and engineers from all over the country

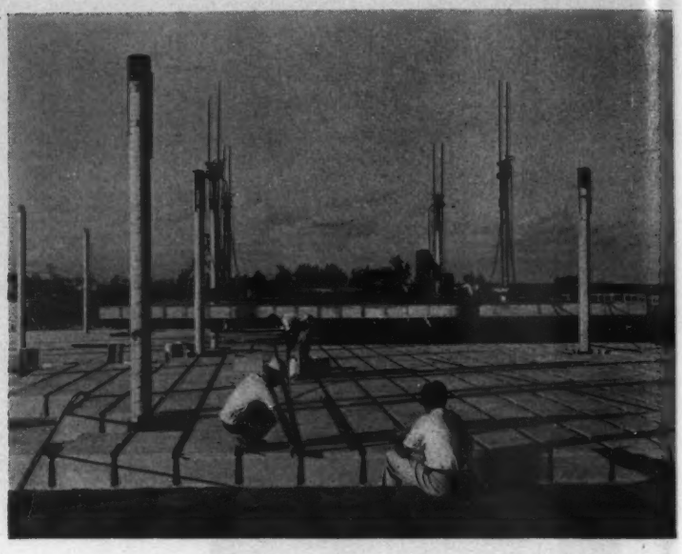


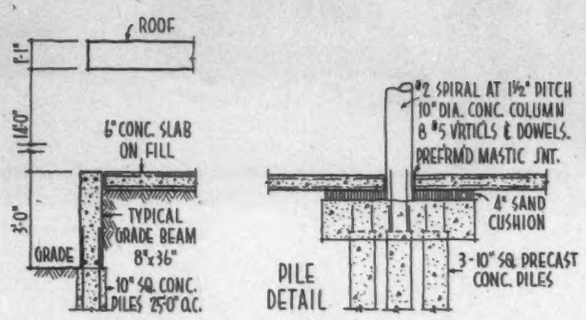
Most of the buildings in the Atlas terminal will be 100 by 200 ft, and so require eight 50 by 50 ft roof slabs. Each slab, comprised of 609 coffered "waffle" blocks and weighing about 88 tons, is raised by the Youtz-Slick lift slab method (See AR, January, 1950). Hydraulic jacks, atop the reinforced concrete columns and connected to lifting yokes by means of tension screws, raise the slabs 14 ft; some unused jacks are on the floor in top photo (left). A single operator manipulates the controls which regulate the lifting operation. Below: the site, 12 miles from the center of Miami on U. S. highway 1, has both rail and water transportation. Buildings are laid out on a 50-ft grid so that they can be expanded if the lessee wishes. Blacked in building is one under construction. Those with gray tone will go up later

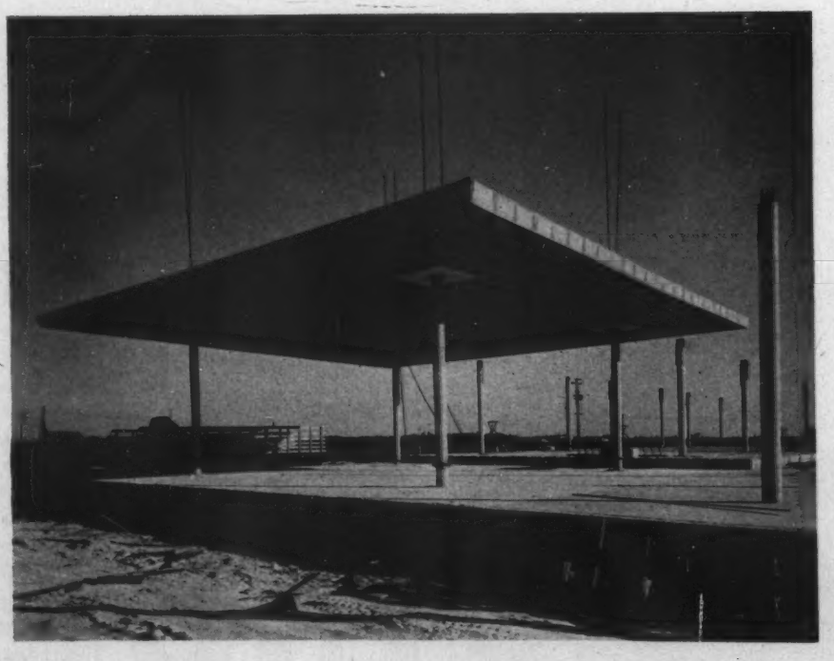


PLOT PLAN

After the floor slab and columns are hard, precast, coffered blocks, designed by the structural engineer, are assembled, and reinforcing is placed between blocks by two men







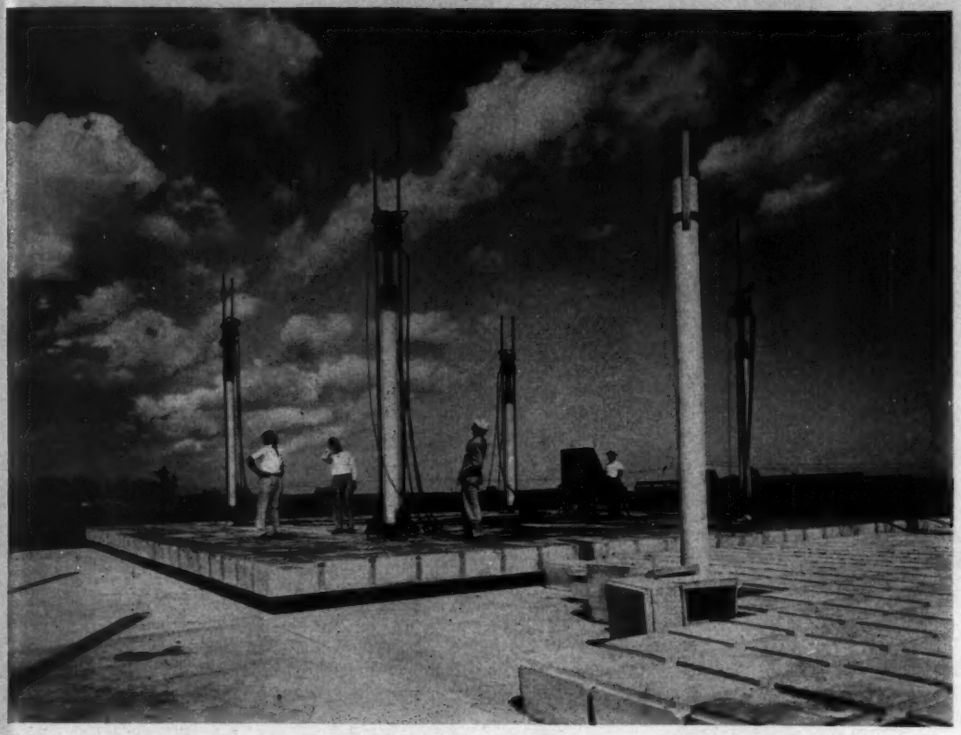
Eight of these "unit buildings" comprise a completed structure. The cantilever extends 10 ft, and the distance between columns of the "unit" is 30 ft. Floor slab is elevated above grade to accommodate loading and unloading

structure that can compete favorably with steel, and at the same time provide a fireproof building.

Located at Ojus, about 12 miles from the center of Miami, the 80-acre site is ideal for terminal operation. Other terminals owned by the Atlas Terminals corporation are located in New York City and Beacon, N. Y., totaling about 3,000,000 sq ft. The Miami terminal will bring the total up to nearly 4,000,000 sq ft. Another point in favor of the site is that the only existing spur of the Florida East Coast R. R. to cross U. S. 1 that near to Miami already serves a steel fabricator on the site. Also, it is adjacent to an 8-ft deep channel connecting with the intracoastal waterway.

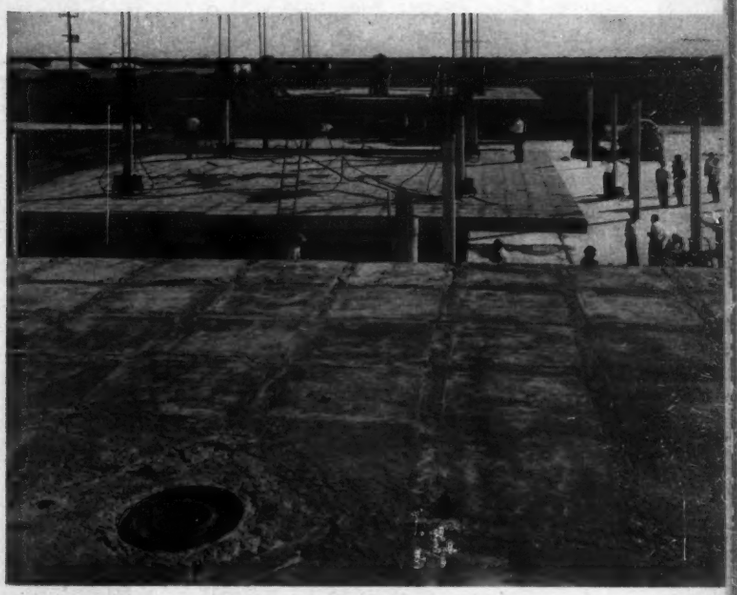
Since the terminal is designed for light industrial buildings as well as warehouses, the Atlas corporation plans to furnish manufacturers with such utilities as steam, water, and power. In addition, a machine shop will be provided for equipment repairs.

The buildings have been laid out on a 50 by 50 ft grid which corresponds to the size of the "unit buildings," eight of them comprising a complete 100 by 200 ft structure. There is a minimum of 100 ft between these buildings, so that additional 50 ft sq units can be tacked on.



Jack Holmes

Left: contractor Burk, engineer Farrant, and Atlas executive Baptiste watch operation of a hydraulic jack during the trial lifting of a slab. Grout poured between blocks to cement them together hardens for two days before slab is ready for lifting. Below, top: at lower left can be seen a flange on top of a column after jack equipment has been removed. Below, bottom: slabs in various stages of lifting



Since the terminal buildings were conceived as a series of structurally independent "unit buildings" (each requiring four columns), the engineers decided the "units" should be 50 ft sq for reasonable column spacing. For maximum economy, the columns then were located 10 ft inside the perimeter of the 50 ft sq. This makes a column arrangement across the width of the building of 10 ft cantilever, 30 ft span, 20 ft span, 30 ft span, and 10 ft cantilever.

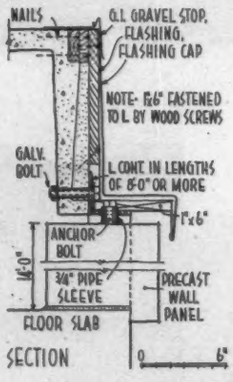
According to the owner, a 10 ft aisle is desirable around the perimeter of a warehouse because it provides ready access to the inventory stacked in the center; and, in addition, it prevents stock from being stacked against windows. In small industrial buildings, machines such as lathes could fit easily in this 10 ft space.

Definite plans are being made by Atlas Terminals, Inc. to construct one of the 20,000 sq ft buildings in the New York Metropolitan area to determine its potentialities there.

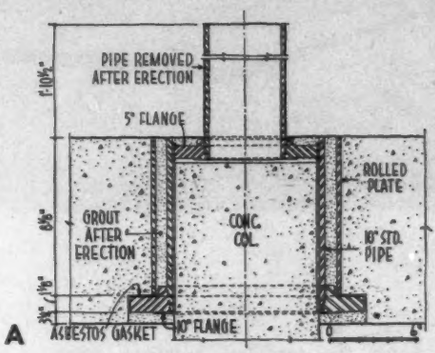
Construction Steps

The Parts. A minimum of on-the-site labor is required because many precast concrete parts are obtained from nearby factories. For example, the 50 by 50

Above: parts used in lift-up process and in supporting slab. Left to right — rolled plate, 10-in. pipe, 10-in. flange, 5-in. pipe and threaded sleeve. (See also detail at far right)



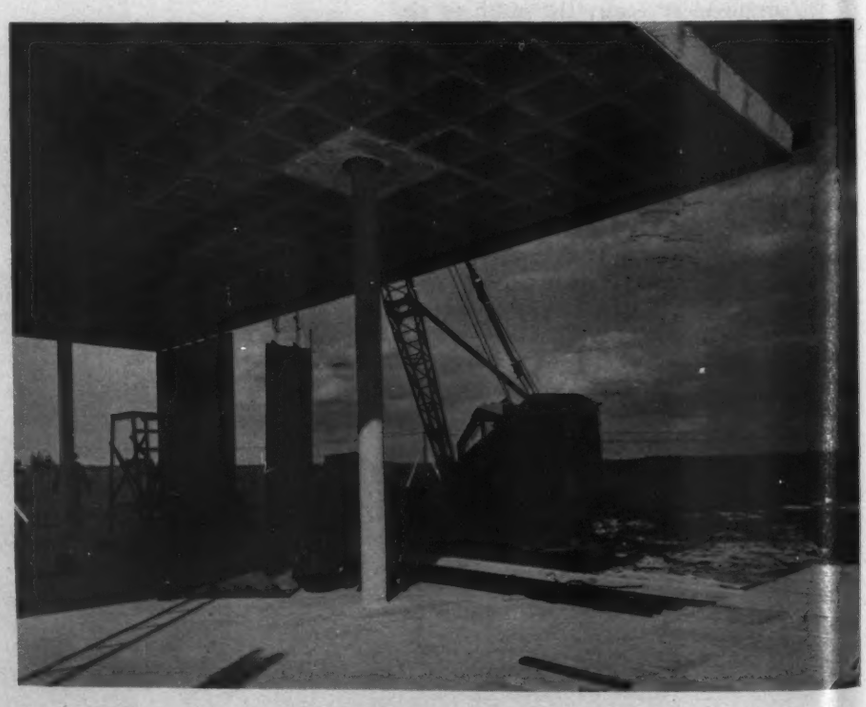
Below, right: panels rest on grade beam and are held in position by cantilever

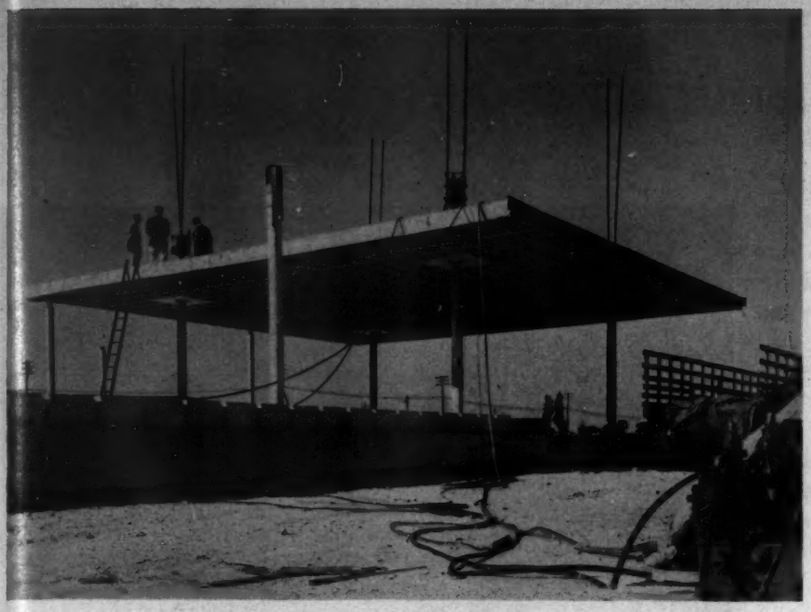


Above: after the slab is lifted to the top of the column, a flange is screwed onto the bottom of the 10-in. pipe capping the column, and this flange supports the slab

ft waffle-like roof slabs are comprised of 609 precast, coffered blocks, 2 ft sq, developed by Farrant and Harry. The piles and demountable wall panels are also precast. Shoring and virtually all formwork are eliminated by using the Youtz-Slick lift slab method.[8] The principal idea is that hydraulic jacks on top of the columns raise a slab, fabricated on the ground, up to ceiling height. (See AR, January, 1949, pp. 121–123).

After the 6-in. floor slab and 10-in. concrete columns (poured in fiber tube forms) have set, the blocks for the roof are assembled side by side on the floor. A projection on the bottom of the blocks keeps them apart so there will be room for the reinforcing in between; only two men are required to place it. The blocks taper out from bottom to top, which makes room for inspection





Above: oil lines leading from pump to hydraulic jacks. Below: instrument panel

Jack Holmes

of the bars at the bottom of the space; and a ledge is formed at the top for laying bars there.

Next, two carpenters nail edge forms around the blocks, and five laborers pour grout on top of the blocks and squeegee it between the blocks to cement them together.

Concrete is poured into a 4-ft sq space left around the columns at the same time. Screw anchors, fastened to the lifting yoke which pulls the slab up the columns, are embedded in it. A cylindrical piece of rolled steel dropped over the column prevents contact between the column and newly poured concrete.

The Lifting Process. A crew of three men assembles hydraulic jacks atop the four columns of each "unit building." The jacks hoist the slab at the rate of 3 in. per stroke of the piston. The Institute of Inventive Research, which licenses the Youtz-Slick lift slab method, sent one of their engineers to Miami to instruct a crew in the use of the equipment. The jack actually is mounted on a length of 5-in. dia. steel pipe, which sits on top of the column and is removed after the slab is raised. (See detail **A**). Tension screws connect the jack and the lifting yoke and thereby transfer the lifting force to the slab.

Slipping down over the top of the column is a piece of 10-in. pipe about 8 in. long and threaded at the bottom. After the slab is raised, a 10-in. I. D. flange, which has been dropped over the column beforehand, is screwed onto the bottom of this pipe to hold up the slab. No spot welding is necessary.

The Time Schedule. Erection of the buildings will go something like this:

Day	Operation
First	Blocks laid
Second	Reinforcing placed
Third	Grout poured
Fourth-Fifth	Grout cures
Sixth	Roof slab lifted

Poured-in-place slabs generally take at least 10 days to cure before they can be lifted.

Structural Design

Although in Miami the roof need only be designed for a live load of 20 lb per sq ft, a test panel 4 ft wide and 16 ft long, having only minimum reinforcing, withstood a load of 500 lb per sq ft. Wall panels are designed to resist a wind of 150 mph.

The unit building was analyzed by the *Presan* method (Photo-reflective stress analysis; see AR, December, 1951, pp. 180–182). According to the engineer, this analysis effected a saving of nearly 50 per cent in the amount of steel prescribed by conventional design methods. Resulting slab deflections, which were very small, followed the *Presan* analysis closely.

Each 100 by 200 ft building can be erected with less than 25 tons of reinforcing steel, which means that it can be self-certified under present CMP regulations. Actually, *Presan* analysis figures showed that only 1.82 lb of steel per sq ft are needed.

The 50 by 50 ft slabs each weigh about 175,000 lb, including grouting, concrete, and reinforcing.

Costs

The engineer estimates that cost of the roof slabs in place will run about $1.20 per sq ft, with further economies possible following more experience. Cost of the buildings, including precast, demountable wall panels, nominal lighting, and four toilet rooms, is expected to be about $4 per sq ft.

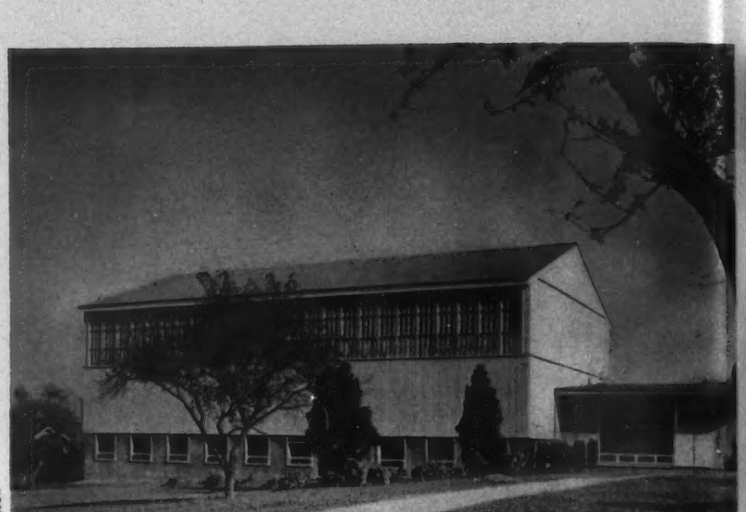
Design Possibilities

Since the roof is supported wholly by the columns, wall panels need not be load-bearing, and can be made of any economical material that will stand the weather. Fenestration can follow any pattern desired. It would be very easy to form a clerestory by simply raising one slab above the others and filling the intervening space with windows. Also, some of the roof slab blocks could be made with open tops, since only the ribs are necessary to the structural strength, and the blocks could be covered with a transparent material to form a skylight.

TRENDS IN WARM AIR HEATING

By R. G. Vanderweil, Consulting Engineer *

Two heating installations in schools recently published by Architectural Record are analyzed by the author and future possibilities discussed



Richard Garrison

Gymnasium, Priory School, *Portsmouth, R. I. Anderson and Beckwith, Harkness and Geddes, Associated Architects*

COSTS OF EVERY ITEM going into schools and other institutional buildings today have to be scrutinized and kept to a minimum without reducing their quality standards. And it is logical to look first at the items that normally cost the most — take the heating system, for example. With close collaboration of architect and engineer, it is often possible to provide a better heating system at a lower cost. In these buildings, where ventilation is required at any rate, the use of warm air also for radiant heating seems most feasible. Provisions of air paths (ducts or conduits) within natural cavities of the building, so that surfaces of floors, ceilings or walls in proximity to large glass areas can be heated, may greatly improve comfort conditions without adding much to building cost.

In this article two actual examples of "radiant-air heating systems" in schools are analyzed and future possibilities are investigated. But before introducing both systems, a note about the benefits of "teamwork" between architect and engineer. The engineer was consulted during the early planning stages of these buildings. Thus, architects and engineer were able to discuss manifold possibilities, estimate their combined structural-mechanical installation cost and thereby eliminate, one by one, the less economical solutions. Not only was the heating system influenced by the construction, but also the design of the building by the heating system.

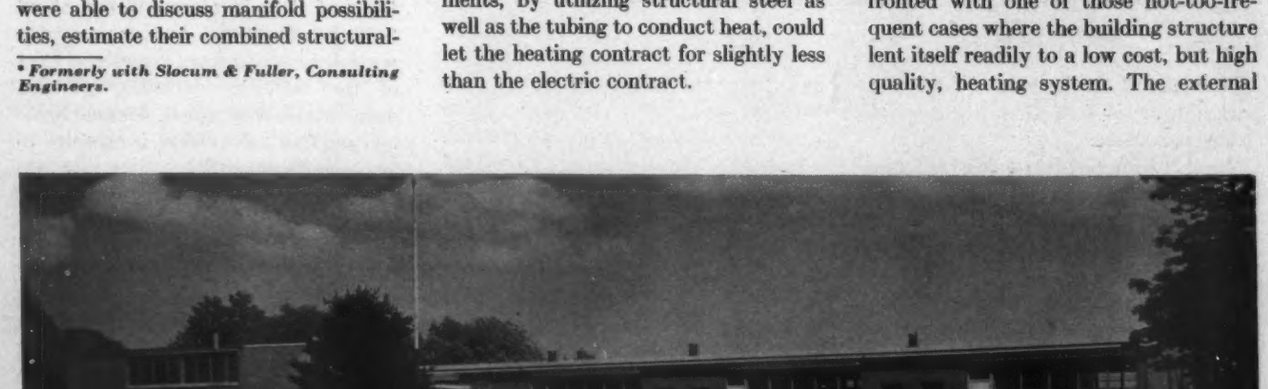
How important such early discussions may be was indicated to the author by a prior experience (with a copper tube type radiant heating system) in which the architect of a large group of apartments, by utilizing structural steel as well as the tubing to conduct heat, could let the heating contract for slightly less than the electric contract.

* *Formerly with Slocum & Fuller, Consulting Engineers.*

Two Installations

Dedham School. The building was to be used by young children, and it was felt that with floors resting directly on the ground, some provision should be made to obtain warm floors. Since Massachusetts law calls for strict mechanical ventilation, it was logical to combine ventilating and radiant heating systems.

Priory Gymnasium. We were confronted with one of those not-too-frequent cases where the building structure lent itself readily to a low cost, but high quality, heating system. The external



Joseph Molitor

Dedham Country Day School, *Dedham, Mass. Bogner and Richmond, Architects*

Part 2: Radiant Heating by Air in Institutional Buildings

Richard Garrison

Plywood interior panels were required first of all to keep columns from projecting into gym at floor level for safety's sake, so this provided a natural channel for distributing warm air. Air flows out at the floor and also up in front of windows. Unit heaters are in the four corners of the room

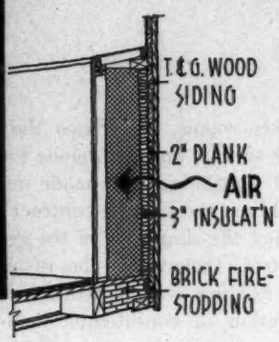
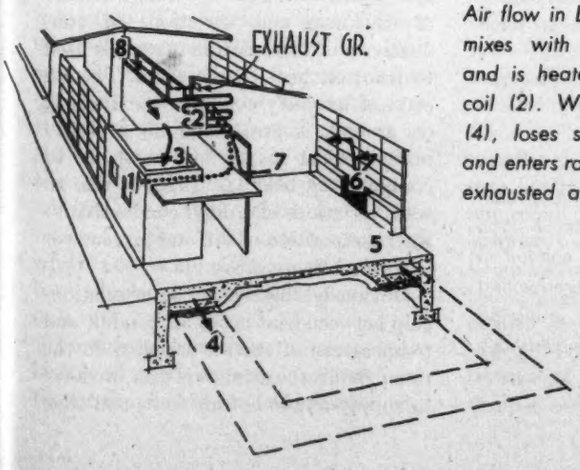


TABLE A

Dedham School	Cost	Per Cent
a. Total contract price of building	$117,000	100
b. Saving due to omission of framed crawl space and ductwork	(7,500)	(6.4)
c. Additional cost of masonry conduit	3,100	2.6
d. Cost of heating and ventilating system	20,100	17.2

TABLE B

Priory Gymnasium	Cost	Per Cent
a. Total contract price.....	$181,500	100
b. Cost of heating system	36,500	20.1
c. Approx. additional cost for provision of plenum minus saving on piping	1,500	.8
d. Cost for heating and plenum	38,500	20.8



Air flow in Dedham School. Fresh air (1) mixes with return air from room (7) and is heated to 135 F by the heating coil (2). Warm air (3) flows to trench (4), loses some heat by radiation (5) and enters room at (6). Half of room air is exhausted at (8), and then to outdoors

walls were formed by a relatively thin skin, so it was essential to apply an internal facing and additional insulation. The building cost, then, was not increased much by providing enlarged "hollow spaces" (plenum chambers) around the perimeter to convey warm air. Plywood facings had to be provided anyway in order to avoid dangerous projections of the columns into the room.

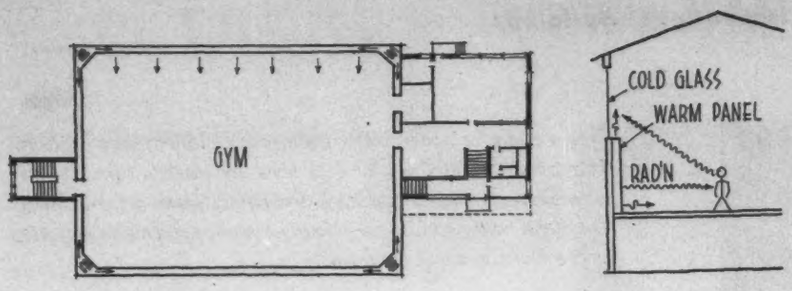
It was possible to locate four unit heaters within the plenum in the four corners of the building. Since the most economical (but not necessarily the best) system of heating the gymnasium would have been by unit heaters, the cost of the heating system proper was identical to that of the cheapest installation with relatively small additional cost for the plenum. The resulting heating system provided even distribution of temperature throughout the room together with the required ventilation. Cold air currents under the large windows were avoided plus stratification of air.

Heating System and Comfort

In applying this solution to the gymnasium, we could adhere to the three main laws for comfort by heating: (1) reduce to "normal" the heat loss of the human body; (2) provide for approximately equal heat loss in all directions — front, sides, and back of the occupant; (3) avoid excessive drafts and movement of cold air along the floors.

Although these laws cannot always be adhered to strictly, they should be kept in mind by the designing engineer and serious deviations avoided. (Strict adherence is not necessary, as can be shown by examples: standing in front of a new fire in a cold cabin results in discomfort, as will sitting near the window in a room where radiation is at the inside wall. However, in the same room when sitting, say within six feet from the window, serious discomfort will no longer be experienced. This shows that small deviations from (1) to (3) above can be naturally compensated for by the body's internal control mechanism.)

TRENDS IN WARM AIR HEATING



Priory Gymnasium 1

Left: projection type unit heaters in the four corners of the gym blow air through the plenum chamber around the periphery of the room. Right: warm air enters the room at the floor and in front of windows. Radiation from warm panel compensates for occupant's loss to cold glass

In many instances artificial ventilation is required for comfort, not only in institutional buildings, restaurants, hospitals, etc., but more and more in homes, in order to relieve allergic conditions of inhabitants, etc.

Installation Cost

Direct cost comparisons of combined radiant-air systems with conventional systems must be made with caution, because of additional work performed by the general, rather than the heating contractor, but an indirect price analysis still will be of great value. Let us see how such an approximate cost comparison runs for the Dedham School (**Table A**). The conduit (Item c.) was provided in order to avoid cool floors. However, without this conduit a crawl space would have to be provided and traditional ducts substituted. Considering that the expense for the conduit was compensated for by savings due to omission of crawl space, the cost of the conduit did not materially add to the building cost.

In the Priory Gymnasium (**Table B**) the plenum chamber must be considered part of the heating. However, the system, according to sum d., still was quite economical for this type of building, and actually resulted in comfort superior to unit heaters. Figures given for the gymnasium include the basement and its heating system, which comprised considerable ventilation for locker rooms, etc. Since the building was simple, and provisions for heating and ventilating were made outside the building, the heating contract does not reflect the simplicity of the gymnasium system. Included is the revamping of an existing central heating plant and addition of considerable underground steam and condensate conduit.

Reviewing installation costs of the two buildings under discussion, the following conclusions may be drawn:

Dedham School — The total erection cost as built was reduced by approximately four per cent below that of an equal building with basement using conventional methods of school heating.

Priory Gymnasium — The total erection cost as built was increased by approximately one per cent over that of a building using the most economical heating system — projection type unit heaters — regardless of comfort.

Operating Cost

Not too much is known about the operating cost of radiant-air heating systems. It is the author's opinion that, essentially, there are neither savings nor additional operating cost over and above that of conventional heating and ventilating systems. Large savings sometimes claimed by radiant heating proponents have remained hypothetical so far, and will remain so until two identical structures are built close to each other and are provided with different types of heating systems operating with similar equipment and identical fuel. Slight savings may be possible with radiant heating because of (a) more even temperature distribution throughout the rooms, (b) smaller stratification so commonly causing serious overheating near the ceilings of high rooms (this would have been particularly noticeable in the case of the gymnasium), and (c) careful selection of controls necessary for radiant-air heating.

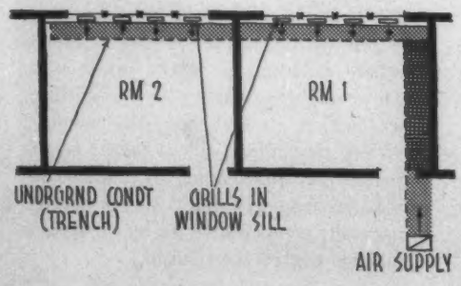
Actual oil consumption of the gymnasium is not known, because the central boiler plant supplies heat to other buildings. Fuel consumption of the Dedham School proved to be nearly identical during the past two heating seasons and was about 12,050 gallons per season. Considering the size of the building and the strict ventilation requirements (15 cfm of fresh air per pupil) this oil consumption turned out to be on the low side of an estimate made prior to erection.

The Control Problem

This, no doubt, is the most vital problem for two reasons: (1) Computations for the radiant output will not always prove precise where masonry conduit is used, and (2) slight variations in heat output can be compensated for by controls. Such variations are due to change of thickness and variations of conductivity of the building materials used to transmit heat to the room. The inertia of masonry conduits, particularly on ground, is great, and no practical mathematical means are available to compute the heat lag. (This is due to wide variations of ground conductivities with composition of soil and presence or lack of moisture, frost, etc.)

Obviously there is an inter-relationship between heat lag of air conduit and temperature of the air supplied to the room. While the conduit is cold, we have to supply ample hot air to it, and then

Dedham School 2

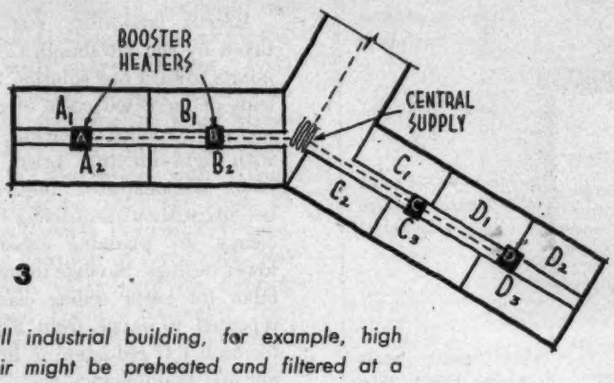


Since more of the warm air conduit runs under Room 1 than Room 2, part of the conduit in Room 1 had to be covered with a material of greater insulating value. Otherwise, it would have been more difficult to control temperatures

at the far end, cool air is delivered to the room. The heat lost by the air in passing through the conduit was consumed mostly in heating the conduit and the ground below. Only a small amount of this heat was supplied by radiation through the top slab of the conduit to the room above. Fortunately enough, this "Lag" is not serious where radiant-air heating is applied to one room only, or where the duct heat inertia is small.

during the early morning hours. Although the school is heated by intermediate recirculation at night, the controls at night maintain a room temperature of only 55 F. Therefore, the conduits cool off at night and absorb additional heat early in the morning. In order to compensate for this lag, additional air had to be conveyed to Room 2. (Room 2 also requires slightly more heat by air at the starting period

High Velocity Air Distribution



3

In a small industrial building, for example, high velocity air might be preheated and filtered at a central supply, brought up to proper temperature by booster heaters (A, B, C, D) in the attic, and then delivered to a peripheral trench which would supply air to the rooms, as in the Dedham School

Obviously, in the gymnasium, where both were true, simple, direct control of unit ventilators by room thermostats could be used.

Quite different was the case of the school system. Here the conduit was broken down into runs supplying more than one room, and also the heat lag was more serious. Fig. 2 indicates the difficulties. The intricate heat balance of "heat supplied by air versus heat supplied by radiation" through conduit top was disturbed by the additional length of the underground conduit in Room 1. In order to obtain equal proportions of panel areas in Rooms 1 and 2, an insulating type trench cover was selected rather than plain concrete, which cut to a minimum the radiant heat supply of this portion of the conduit.

Furthermore, it was expected that the inertia of conduits would severely cool the air supplied to Room 2, particularly because its floor conduit is colder and radiation smaller than that of Room 1, which is nearer the warm air supply.)

Controls had to be provided accordingly. In addition to a thermostat controlling the main heating coil ahead of the conduit, individual room control dampers were called for to regulate the air supplied to the room, from its minimum requirements — fixed by state law — to a maximum expected to be necessary to compensate for the difference in supply air temperature of Rooms 1 and 2. However, the owner decided to operate the system — at least for the first heating season — without individual room controls, and, much to our surprise, temperatures in all rooms could be maintained sufficiently close, so that the system is operating without room control dampers for the third heating season. This could be achieved only because of (a) rather careful manual damper setting by the owner, because (b) conduits are kept short and in no case more than three rooms are connected to each zone, because (c) zones do not cover more than one exposure and, because (d) there is no special "shade problem." In the one room which, at times, is shaded considerably more than others, greater differences of temperature are met than in the remainder of the building.

Likely Future Uses

In the near future, we will likely find this system installed in relatively small buildings. The reason for this is that the radiant-air heating system has to be broken down into relatively small subsections so that one conduit will not supply too many spaces simultaneously. Application to all kinds of institutional buildings, churches, and industrial buildings normally calling for ventilation is most likely.

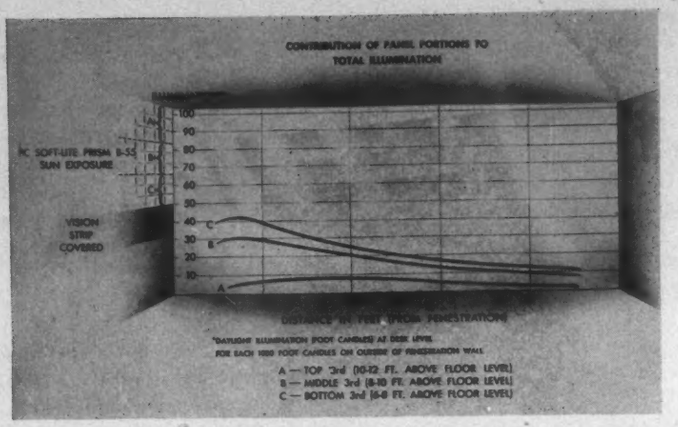
In industrial buildings, conditions may occur where application of air-radiant systems may become economical.

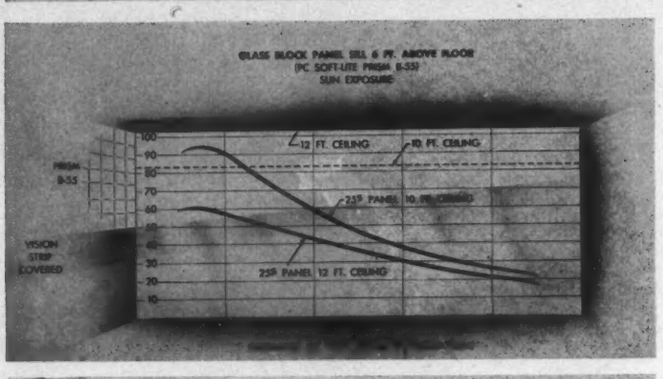
Restrictions to the size of buildings may not be as critical as would seem at first. The author can well visualize a combination of a high velocity supply duct and the system under discussion as shown in Fig. 3. Where fresh air requirements to the rooms are not excessive, a central filter-preheat coil-fan assembly could be provided at point "CS", supplying air to the high velocity duct work indicated by dashed lines. From here, high pressure air could be conveyed to booster heaters A to D, which could be located in the attic space and each individually controlled to suit the conditions in each zone A1, A2, B1, etc. From these coils, warm air would flow to the underground masonry conduits located around the building's periphery and from there on would be like the Dedham School.

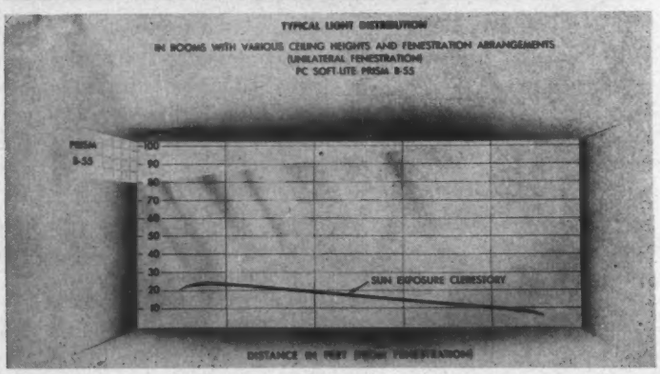
It is most likely that the system will be used only in one- or two-story structures. Air ducts or conduits would present an increasing problem with growing height, although certain methods again may be used to overcome such restrictions. A hung ceiling forms a fine plenum chamber to carry hot air used simultaneously for a ceiling radiant panel for the room below and a floor panel for the room above.

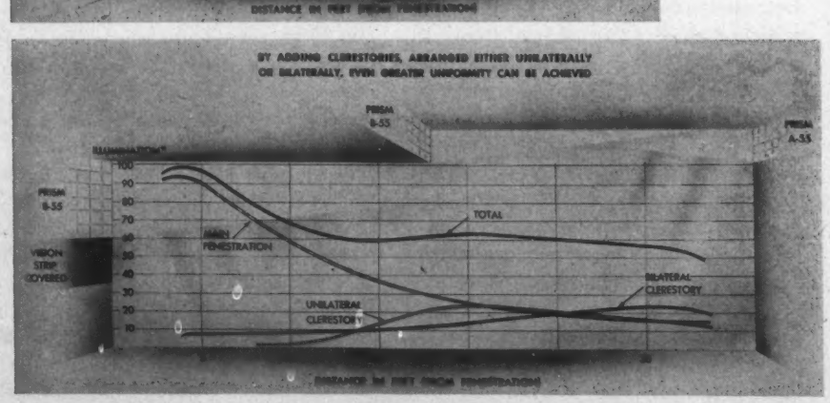
Critical Materials

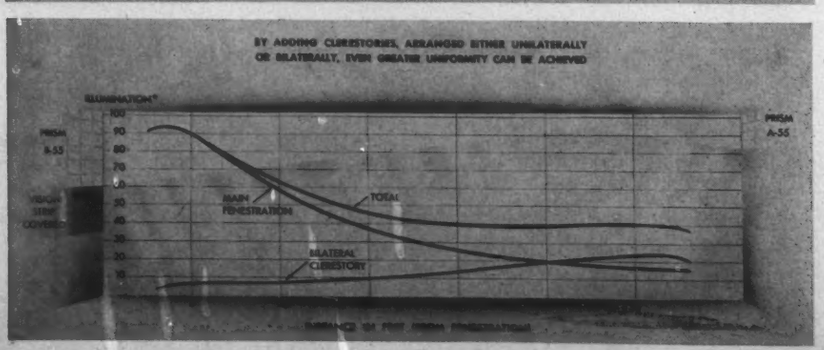
Presently, the system may gain impetus due to scarcity of metals. Considerable amounts of critical materials can be saved by proper design and application of this system.


CONTRIBUTION OF PANEL PORTIONS TO TOTAL ILLUMINATION
PC SOFT-LITE PRISM 8-55 SUN EXPOSURE
VISION STRIP COVERED
A — TOP 3rd (10-12 FT. ABOVE FLOOR LEVEL)
B — MIDDLE 3rd (8-10 FT. ABOVE FLOOR LEVEL)
C — BOTTOM 3rd (6-8 FT. ABOVE FLOOR LEVEL)









Research Points to Lower Classroom Costs with Lower Ceilings

Daylighting quality maintained while money and materials are conserved by reduced ceiling heights

Recent laboratory research undertaken by the Pittsburgh Corning Corp. points toward one solution to the problems of increased costs of construction and maintenance of schools. Tests made with light-directing prism type glass block demonstrated that costs could be cut, without sacrificing lighting efficiency, by planning classrooms with lower ceilings. Savings in materials and labor for lower ceiling classrooms are reported to range from $150 to $500 for each 1 ft reduction in height. Heating and maintenance costs are also reduced.

The effects in terms of daylighting of lower ceiling heights was demonstrated by the tests, graphic results of which may be seen at left. Since variation in ceiling height reduces the number of courses of glass blocks in the fenestration, engineers set out to determine which portion of a block panel supplies most light to the far side of a classroom. After blacking out the vision strip below a panel, they divided the panel into three portions, and blacked each of these in turn, while testing lighting levels in the room. The test revealed that the bottom third of the glass block panel yielded 50 per cent of the daylight directed to the area of the classroom opposite the fenestration. This performance relationship finding demonstrated that it was practical from the standpoint of lighting effectiveness to reduce ceiling heights. However, engineers pointed out that, since the lower courses of the blocks provide the illumination for the far side of the room, the sill height of the block panel should not be raised above 6 ft, since this would reduce the desired light distribution.

Several states are said to have already begun experimenting with the lower ceilings in conjunction with light-directing block and to have reported successful results. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.

Classroom Daylighting Analysis Compares Costs of 5 Schemes

This daylighting study, conducted by The Architect's Collaborative under the sponsorship of the Wasco Flashing Co., is a good example of unbiased product research to determine what type of classroom fenestration provides the best light for the least amount of money and critical materials. The sponsor's explicit objective was to compare the effectiveness of its line of *Skydome* plastic skylights with other schemes; TAC wished to analyze possible sections to use on their plans for the Flagg Street School in Worcester, Mass., now being prepared in association with Albert Roy. In order to make the study as objective as possible, Bernard F. Greene, Consulting Engineer of New York, was commissioned to prepare the lighting analysis, and Thomas Worcester, Inc., of Boston was employed to make actual take-offs and cost estimates for each system.

Four typical fenestration schemes were selected in addition to the one using white translucent Skydomes — all based on a typical elementary classroom plan from the Flagg St. School. For simplification, constant elements for all schemes — floors, cabinet work, etc. — were eliminated from the analysis. Thus figures are based generally on portions from window and transom sills upward, with consideration of the different ceiling heights involved. The architects feel that the results are fairly typical, although varying local conditions might give different cost results in competitive bidding.

The Criteria: the following objectives were used to measure the performance of each daylighting system:

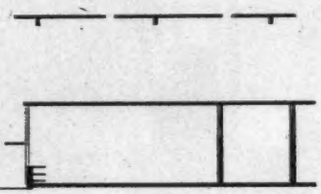
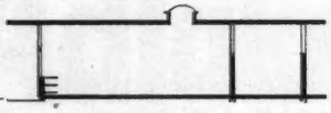
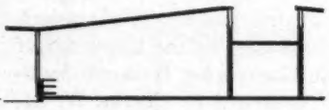
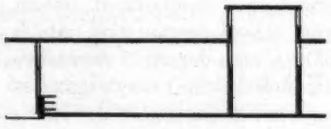
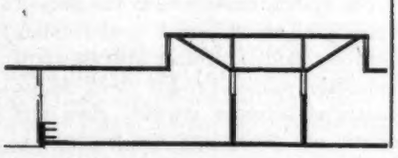
1. Adequate illumination (in footcandles) in all parts of room on sunny and overcast days (see Chart 3).

2. Brightness contrasts within comfortable ratios, without producing a visually "dead" room (see Chart 2).

3. Psychological factor — room should take advantage of stimulating effect of natural light, let in sunlight or cut it out as needed.

Assumed Conditions: lighting — sky brightness (overcast) 1000 ft L, (clear day) 2000 ft L; 42 deg N latitude; 10 AM or 2 PM; March 21 or Sept. 21; sidewall window faces south.

CHART 1

ILLUMINATION	COST	SECTIONS*
PLAN	Comparative cost shown in percentages using lowest cost as base of reference.	
Good except for overcast days. Lack of flexibility and possibility of direct sun.	SCHEME A 103% Simple framing. Eliminating domes, clerestory, makes cost near B, C, despite higher cost of block.	
Good for all conditions assuming control device for low sun angles.	SCHEME B 100% Simple framing. In spite of Skydome cost, slightly cheapest solution.	
Good except inside wall, where illumination drops. Also assumes sun control.	SCHEME C 103.5% Simple framing but slightly more, producing slightly higher cost than Scheme B.	
Least good. Little light from corridor monitor. Inside wall dark.	SCHEME D 118% Framing of monitor over corridor more than offsets otherwise simple framing.	
Good for all conditions assuming use of sun control device at times as in Scheme B.	SCHEME E 134% Most complicated framing. Despite attempt to lighten structure, this is most expensive solution.	

* *Ceiling Heights: Scheme A, 12 ft; B, 9ft–6 in.; C, 10 ft–10 in.; D, 10 ft–10 in.; E, 10 ft–10 in.*

Reflectivity of points (see diagram, Chart 2): 2,3 and 4 – 70%; 5 – 20%; 6 – 60%; 7 – 80%; 8 – 60%.

Construction: classroom size, 28 by 34 ft.

Roof — tar and gravel on 3 in. decking.

Frame — 3 bays per room; beams framing to 3½ in. lally cols. in ext. walls.

Inside walls — 12 in. painted concrete block bearing walls.

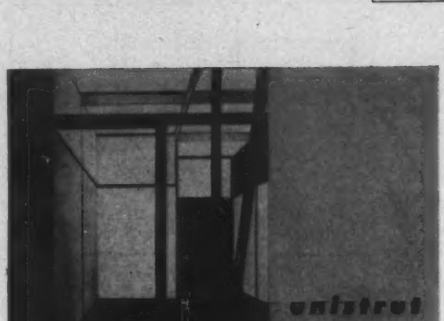
Windows — wood subframes, fixed plate glass, opening metal vents.

Transoms — wire glass in metal frames.

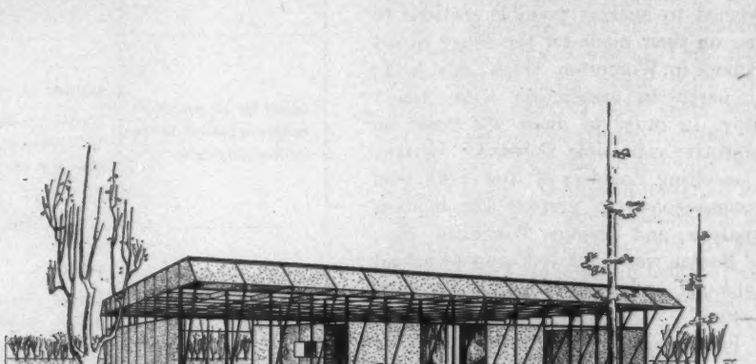
Conclusions: Schemes B and E give good even lighting levels on both sunny and overcast days. All Schemes except A have high brightness contrast ratios, especially on sunny days. Lighting experts debate as to proper ratio of task brightness to max. brightness within field of vision, some recommending as low as 3 to 1 ratio. Even Scheme A produces about a 1 to 10 ratio. TAC feels that a constantly low ratio produces an enervating effect — that perhaps the ideal condition is one in which these ratios can be varied, and even direct

(*Continued on page 308*)

LITERATURE FOR THE OFFICE



Booklet, left, contains extensive report on research project for low-cost school system. Prototype school, below, developed through project, employs module framing, can be expanded, diminished or demounted



University Research Program Develops Low-Cost School

Unistrut School Construction: A Report of Research Project M 811. Descriptive booklet reports findings of a research project conducted by the University of Michigan Engineering Research Institute and sponsored by Charles W. Atwood, president of the *Unistrut* Corp. The objective of the research was the development of a standardized system of low-cost school construction, which would offer a high degree of durability and which would permit easy expansion and complete demounting of the structure for re-use when desired.

The system developed in the project consists of standardized steel framing members, bolted together with standard connector pieces. Pre-cut stock 48 in. panels of asbestos cement, glass and plastic are fitted into the framework, which is based on a 49 in. bay-space module.

The booklet describes the history of the project itself, with separate sections dealing in detail with the prototype school developed, the structural system evolved for it, and a bill of materials employed in the structure. All are fully illustrated with drawings and photographs. Appendices include data on heating, lighting, acoustics and roof system for this project. 68 pp., illus. College of Architecture and Design, Engineering Research Institute, University of Michigan, Ann Arbor, Mich.

**Other product information in Sweet's File, 1952.*

Fluorescent Lighting Units

Great Northern Fluorescent Lighting Fixtures and Mercury Vapor Lighting. Catalog describes the manufacturer's line of commercial (recessed treffers), industrial, school and residential fluorescent units. Complete specifications are given, together with data on construction, finish, wiring, mounting, louvers, panels, sizes and component parts. Also included are dimensional diagrams and tables of coefficients for accessories. Both interior and exterior fixtures are illustrated and described. 52 pp., illus. Great Northern Mfg. Corp., 4217, 19–21 Harrison St., Chicago 24, Ill.

Stucco and Plaster Application Guide

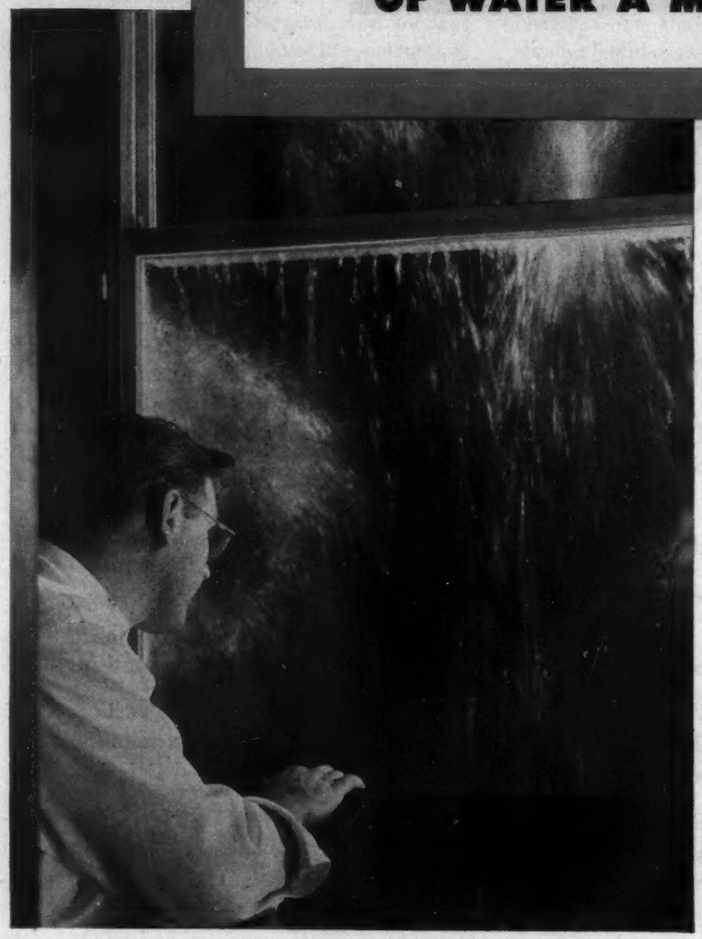
The Keystone System: Stucco Application, Plaster Reinforcing and other Reinforcing Applications. Designed to serve as a complete procedure guide for the application of siding and surfacing materials where open mesh steel reinforcing is required, this manual describes and illustrates in detail each step of a process recommended by the manufacturer on the basis of research tests and consultation with authorities in the field.

Methods of stucco application to new construction and overcoatings for older buildings are both included, and sections on plaster reinforcing and other uses for keymesh reinforcing are also featured. Various textures which may be achieved with stucco are shown and the processes for obtaining them are illustrated. Included among these textures are Spanish, Californian, Italian, Italian Travertine, English Cottage, Colonial and Modern American. The process for creating a simulated stone finish is also presented. A table of stucco application data is included in the volume along with many construction details and photographs and illustrations of typical projects. 44 pp., illus., Keystone Steel and Wire Co., Peoria 7, Ill.

(*Continued on page 342*)

500 gallons

OF WATER A MINUTE GUARANTEES THE



WEATHER-TIGHTNESS OF

Adlake

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During the water test, which is only one of the rugged tests that ADLAKE Aluminum Windows must pass, 500 gallons per minute are played upon the window. This actually goes beyond the air infiltration test of the A.W.M.A. at the Pittsburgh Testing Laboratory.

ADLAKE'S exclusive combination of woven-pile weather stripping with patented serrated guides forms a perfect weather seal. What's more, tests prove that ADLAKE'S famous finger-tip control continues through *one million raisings*—and the windows last through the entire life of the building!

Yes, the standards of ADLAKE Aluminum Windows are kept high by quality control and thorough testing. That's why the ADLAKE name is your best assurance of dependability, long-range economy, and lasting beauty. Get the full story on ADLAKE Windows today . . . ADLAKE Representatives are in most major cities.

ONLY ADLAKE ALUMINUM WINDOWS GIVE YOU ALL THESE "PLUS" FEATURES:

Woven-Pile Weather Stripping with Patented Serrated Guides

●

Minimum Air Infiltration

●

Finger-tip Control

●

No Painting or Maintenance

●

No Warp, Rot, Rattle, Stick, or Swell

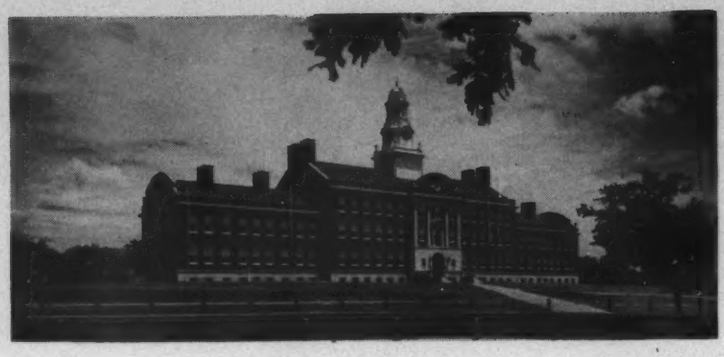
Adlake TRADE MARK

THE Adams & Westlake COMPANY

Established 1857 • ELKHART, INDIANA • New York • Chicago

QUALITY APPROVED

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air Infiltration requirements—confirmed by Pittsburgh Testing Laboratory



Who put comfort on the Q.T. at S.M.U.?

Comfort's *always* on the Q.T. when it's supplied by a Carrier Conduit Weathermaster* Air Conditioning System.

There's a Conduit Weathermaster System installed in the Fondren Science Building at Southern Methodist University. It keeps the air fresh and clean and at proper temperature the year round for clear thinking. And the beauty of it is the quiet.

What little noise there is from the equipment is kept in the basement, all in one place. The 263 room units have no moving parts, like motors or fans. They get filtered, dehumidified air from the central station through conduits, then distribute it evenly and silently.

There's no wiring or heavy maintenance in the rooms. Servicing and filter-cleaning are all done in one place, at the central station.

A Conduit Weathermaster System will fit into anybody's plans. Vertical or horizontal buildings, there's no restriction on design. And installation costs are held down by standardized prefabricated fittings.

There's more to the Conduit Weathermaster story, of course. Complete details are yours for the asking. Just write for our booklet, "Conduit Weathermaster System." Carrier Corporation, Syracuse 1, New York.

*REG. U. S. PAT. OFF.

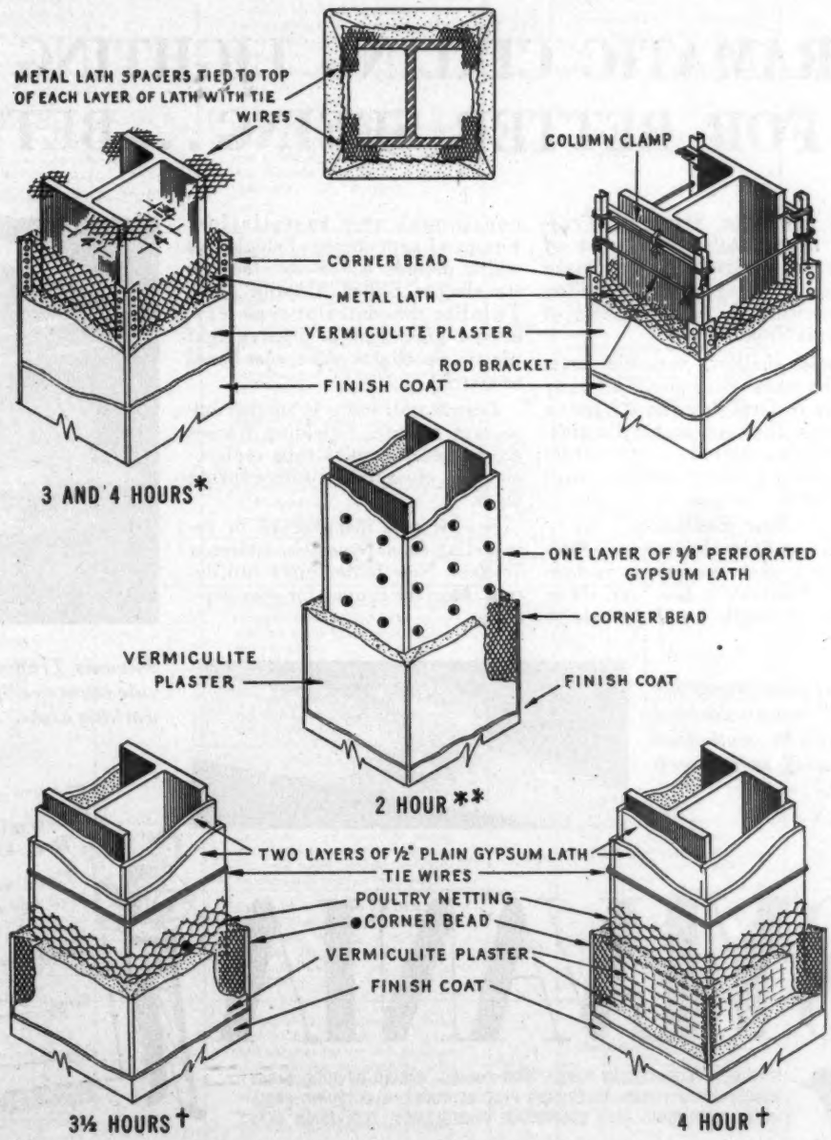
Inside the Fondren Science Building at Southern Methodist University: one of the comfortable classrooms, and one of the two Carrier Centrifugal Machines which supply refrigeration for the Conduit Weathermaster System. Mark Lemmon, *architect;* Zumwalt & Vinther, *engineers;* Martyn Bros., Inc., *mechanical contractor.*

FIREPROOFING WITH LIGHTWEIGHT PLASTER: 1

The following sheets of details and fire test summaries on the use of lightweight vermiculite plaster fireproofing are presented as one method of reducing structural steel tonnage and subsequent costs in construction. The smaller deadload of lightweight plaster fireproofing requires somewhat smaller structural members, lighter reinforcing and supporting channels for the fireproofing, and smaller foundations. Such savings are more conspicuous in multi-story buildings, but are still evident in relatively small ones. All data contained in these pages is copyrighted by and presented through the courtesy of the Vermiculite Institute.

TYPICAL COLUMN FIREPROOFING DETAILS

NO SCALE



* See Item 1 on Sheet 2

** See Item 3 on Sheet 2

† See Item 2 on Sheet 2

TIME-SAVER STANDARDS Architectural Engineering

Sylvania Louvered Troffers and swivel spots provide general illumination **plus** *accent lighting for dramatic merchandise displays.*

DRAMATIC CEILING LIGHTING... FOR BETTER SEEING... BETTER SELLING

New versatile Sylvania Troffers make lighting a part of interior design. You can make lighting an integral part of ceiling design with the improved line of Sylvania Troffers.

These shallow, versatile units may be recessed in practically any ceiling to form decorative lighting patterns. They give ample illumination where required . . . without interrupting planned architectural simplicity.

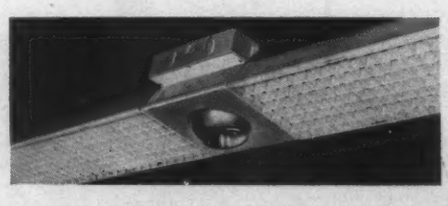
New flexibility

You'll find Sylvania Troffers adaptable to a great variety of modern needs. Available in two, four, six or eight-foot lengths . . . for single or continuous row installation. Equipped with choice of shieldings which include 45° x 45° louvers, translucent ribbed Albalite glass, Twinlite concentrator type lens, curved glass lens or light-weight plastic. Spotlights and corner boxes to match!

Easy maintenance is another important feature. Shielding frames are hinged for quick tube replacement . . . close tightly with a spring latch.

So, for new installations or remodeling jobs, remember Sylvania Troffers. New folder gives full details. Mail the coupon for your copy now.

Sylvania Troffers, with Albalite shielding, also provide attractive "pattern" lighting for informal or non-working areas.



Detail photo shows 45° x 45° louver shielded troffers in continuous row with swivel spotlight.

SYLVANIA

FIXTURES, FLUORESCENT TUBES, SIGN TUBING, WIRING DEVICES; LIGHT BULBS; RADIO TUBES; TELEVISION PICTURE TUBES; ELECTRONIC PRODUCTS; ELECTRONIC TEST EQUIPMENT; PHOTOLAMPS; TELEVISION SETS

Sylvania Electric Products Inc.
Dept. L-1403, 1740 B'way, N. Y. 19, N. Y.

Please send me illustrated folder describing the full line of Sylvania Troffers.

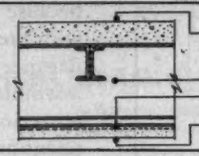
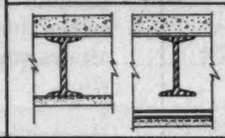
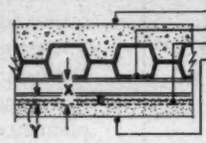
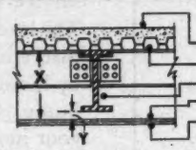
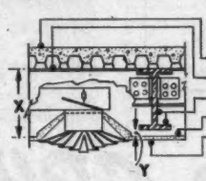
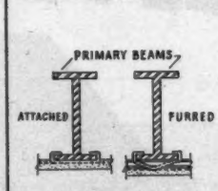
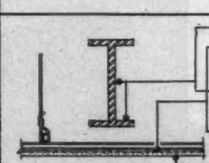
*Name*_____

*Street*_____

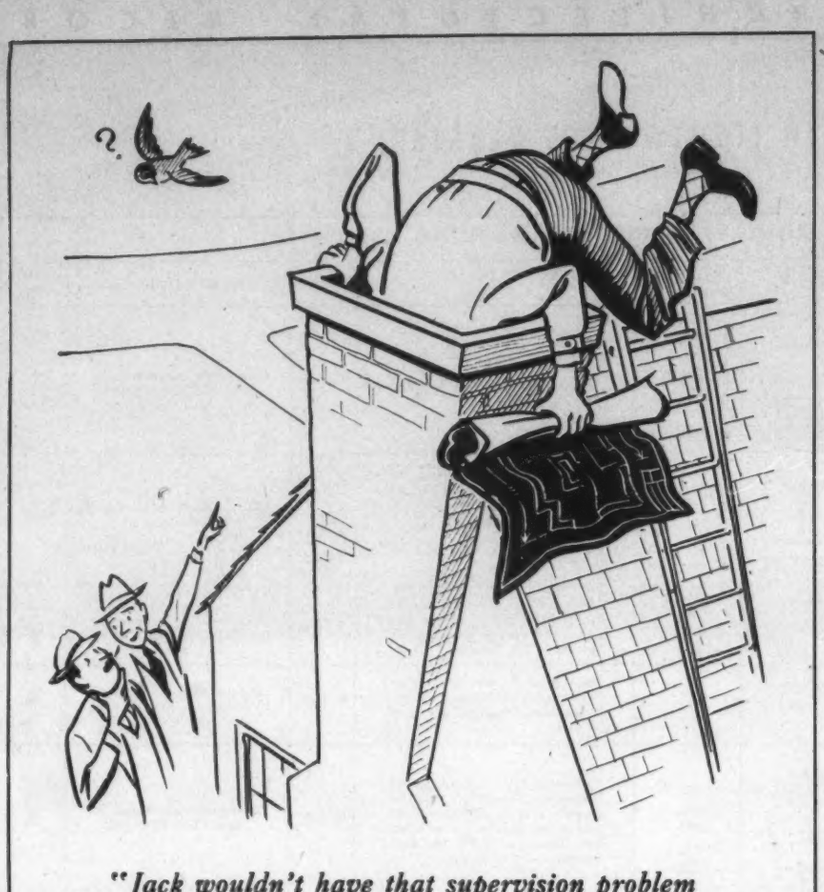
*City*_____ *Zone*____ *State*_____

FIREPROOFING WITH LIGHTWEIGHT PLASTER: 2

SUMMARY OF FLOOR AND CEILING FIRE TESTS

		CONSTRUCTION	AVERAGE TEMPERATURE AT RATING INDICATED	DESCRIPTION	RATING	AUTHORITY	ITEM No.
FLOOR AND ROOF ASSEMBLIES	STEEL PLATE CONSTRUCTION		203°F 910 1142 2000	Steel Plate Floor Assembly 2" vermiculite concrete topping. Suspended ceiling with 1" vermiculite plaster over face of metal lath.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2773—9/12/44	1.
				2½" sand concrete topping. Attached or suspended ceiling of vermiculite plaster on metal lath. 1" ..... ¾"	4 hrs. 3 hrs.	National Bureau of Standards BMS92—Table 44	2.
	CELLULAR STEEL CONSTRUCTION		239°F 796 1009 2000	Minimum of 2" cinder concrete fill. Furred ceiling of ⅞ inch vermiculite plaster over face of metal lath. Distance x = 2¼" or more.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2689—12/18/39	3.
				Minimum of 2" sand concrete fill. Furred ceiling of 1" vermiculite plaster on metal lath. Distance x = 2" or more.	4 hrs.	National Bureau of Standards BMS92—Table 45	4.
			233°F 656 853 913 2000	Minimum of 2½" sand concrete fill. Suspended ceiling of ⅞" vermiculite plaster plus ½" of vermiculite acoustical plastic over the face of metal lath. Distance x = 7¼" or more. Distance y = 2½" or more.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2773—11/29/50	5.
			266°F 720 837 878 1925	Minimum of 2" sand concrete fill. Suspended ceiling of ⅞" vermiculite plaster over the face of metal lath. Distance x = 15⅜" or more. Distance y = 3½" or more. Ceiling had openings for two duct outlets as shown and for two electrical outlet boxes; aggregate area of openings did not exceed 100 square inches in each 100 square feet of ceiling area. Duct openings protected by fire dampers as shown.	3 hrs.	Underwriters' Laboratories, Inc. Ret. 2689—12/13/49 Submitter (floor manufacturer) stopped test at 3 hours. In test of similar floor construction without openings in ceiling (see item No. 3 above) average temperatures at 3 hours were: unexposed surface 190°F cellular floor 700° unexposed side of lath 920° exposed plaster surface 1925°	6.
	STEEL JOIST AND LIGHT STEEL CONSTRUCTION			2½" sand concrete fill. 1" vermiculite plaster on metal lath.	4 hrs.	National Bureau of Standards BMS92—Table 43	7.
				2½" sand concrete fill. ¾" vermiculite plaster on metal lath.	3 hrs.		
				2" sand concrete fill. ¾" vermiculite plaster on metal lath.	2½ hrs.		
CEILING FIREPROOFING WITH INCOMBUSTIBLE MATERIALS ABOVE	ATTACHED or FURRED			Ceiling of 1" of vermiculite plaster on metal lath attached to or furred from the lower flange of supporting primary beams.	4 hrs.	National Bureau of Standards BMS92—Tables 43 & 44 and Para. 1, Page 41 & Para. 4, Page 42	8.
				Ceiling of ¾" of vermiculite plaster on metal lath attached to or furred from the lower flange of supporting primary beams.	3 hrs.		
				Ceiling of ¾" of vermiculite plaster on metal lath attached to or furred from the lower flange of supporting primary beams.	2½ hrs.		
	SUSPENDED		975°F 1142 2000	Ceiling of 1" of vermiculite plaster over the face of metal lath. At least 2½" air space between structural members and back of metal lath.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2773—1/20/47	9.
			853°F 913 2000	Ceiling of ⅞" of vermiculite plaster plus ½" of vermiculite acoustical plastic over the face of metal lath. At least 2½" air space between structural members and back of metal lath.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2773—11/29/50	10.
			837°F 878 1925	Ceiling of ⅞" of vermiculite plaster over the face of metal lath. Ceiling had openings for two duct outlets as shown and for two electrical outlet boxes; aggregate area of openings did not exceed 100 square inches in each 100 square feet of ceiling area. Duct openings protected by dampers.	3 hrs.	Underwriters' Laboratories, Inc. Ret. 2689—12/13/49 See comments under item 6 above	11.

TIME-SAVER STANDARDS Architectural Engineering



"Jack wouldn't have that supervision problem if he'd specified a Heatilator Fireplace!"

You save on-the-job supervision time when you specify a Heatilator* Fireplace! You know in advance that it will work properly and that your clients will be more than satisfied. That's because this unit comes complete with firebox, throat, downdraft shelf, damper and smoke dome... fully assembled and ready to install. Construction is standardized and the scientific design protects you against rule-of-thumb building methods... assures smokeless, trouble-free operation.

The Heatilator Fireplace puts no limit on mantel design or use of materials ... gives you complete freedom of architectural expression. It's ideal for basement rooms too... and as a supplemental source of comfort during service interruptions or emergencies. The leader since 1927, Heatilator Fireplaces have been proved in actual use by hundreds of thousands of satisfied home owners. Specify "Heatilator" in your next home or group of homes. Heatilator, Inc., 383 E. Brighton Ave., Syracuse 5, New York.

*Heatilator is the reg. trademark of Heatilator, Inc.

NO SMOKING - NO GRIEF - NO LIMIT TO MANTEL DESIGN!

with the

HEATILATOR

T. M. REG. U. S. PAT. OFF.

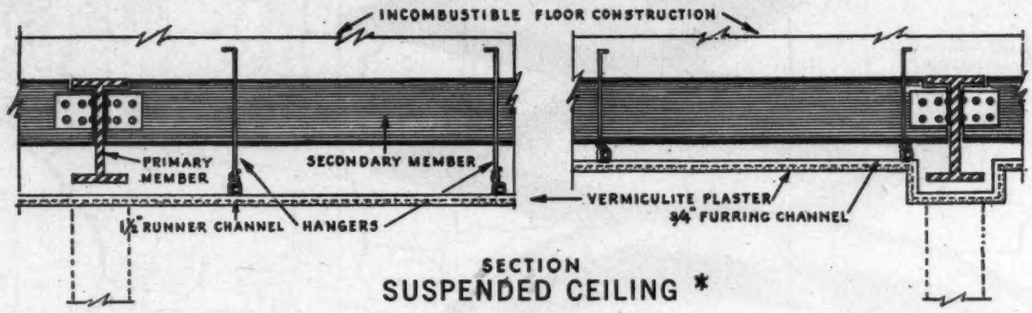
FIREPLACE

FIREPROOFING WITH LIGHTWEIGHT PLASTER: 3

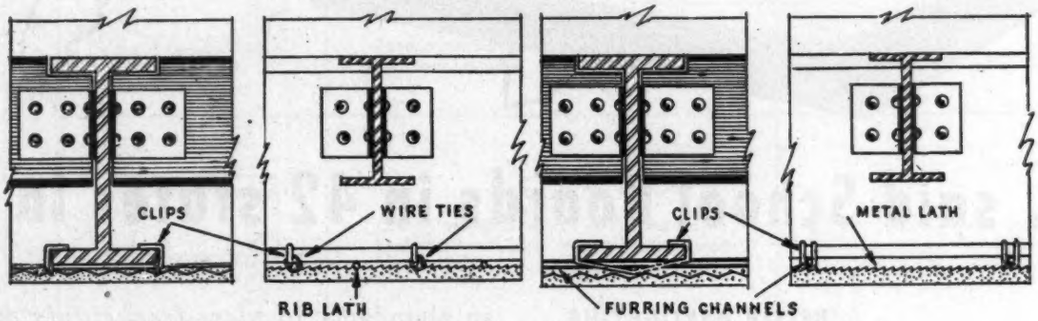
TYPICAL BEAM, GIRDER AND TRUSS FIREPROOFING DETAILS

FIREPROOFING PRIMARY AND SECONDARY MEMBERS WITH A CEILING

NO SCALE

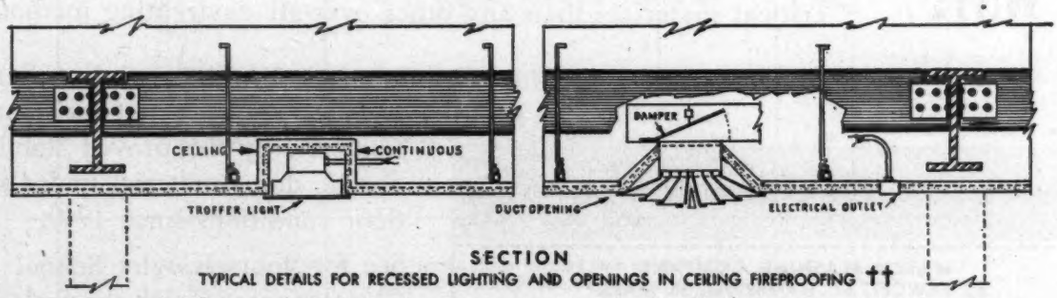


SECTION
SUSPENDED CEILING *



SECTION ELEVATION
ATTACHED CEILING **

SECTION ELEVATION
FURRED CEILING †



SECTION
TYPICAL DETAILS FOR RECESSED LIGHTING AND OPENINGS IN CEILING FIREPROOFING ††

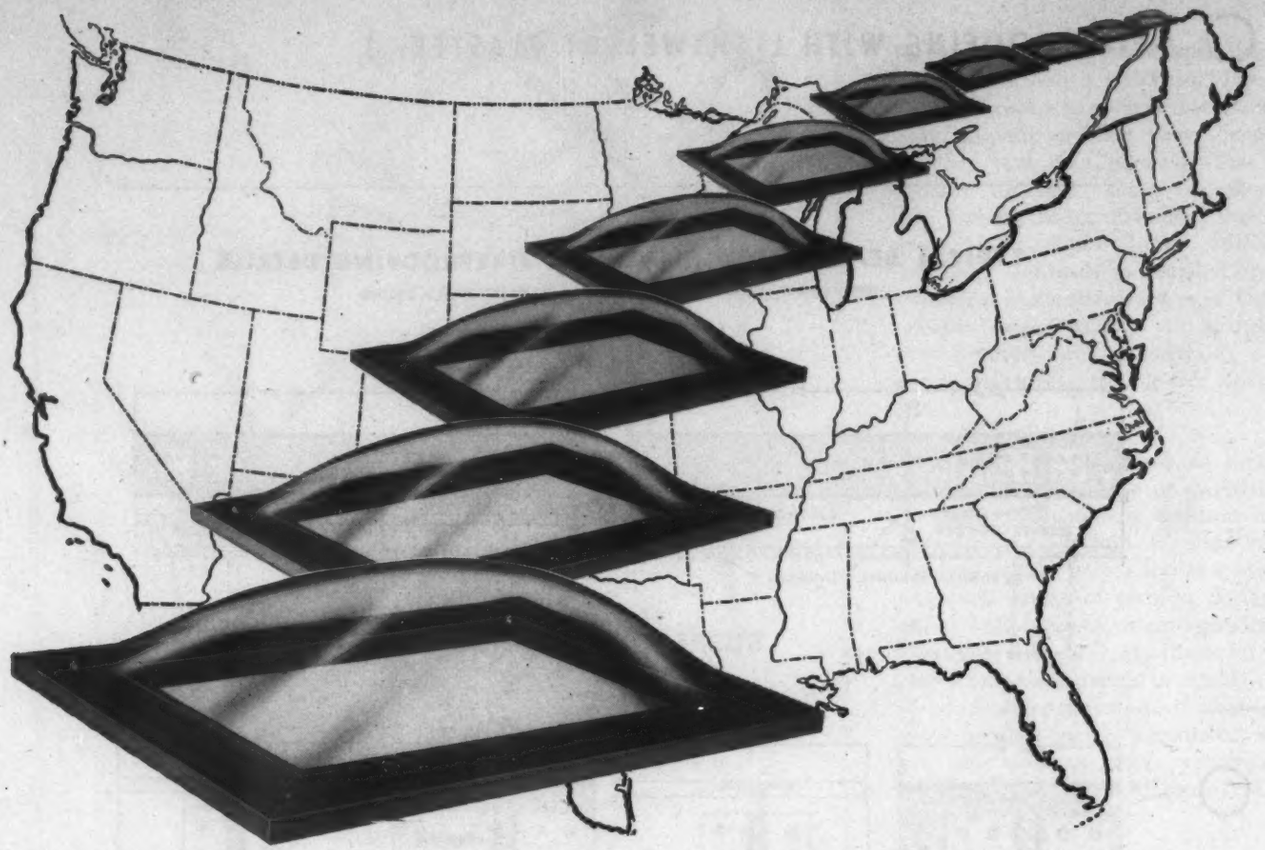
* See Items 1–2–5–6–9–10–11 on Sheet 4

** See Items 2–7–8 on Sheet 4

† See Items 3–4–8 on Sheet 4

†† See Items 6–11 on Sheet 4

"we approve Wascolite Skydomes for daylighting"



. . . said School Boards in 42 states in 1951

HERE'S WHY:

BETTER DAYLIGHTING . . . an abundance of *glare-free, evenly distributed* daylight under cloudy or sunny conditions.

LOWER COST . . . the Skydome system permits economical flat roofs and low ceilings . . . simple structural designs using less steel and other critical materials than any other over-all daylighting method.

DEPENDABILITY . . . long, trouble-free life insured by prefabricated, weather-proof, shatter-resistant construction . . . by the proved stability of the acrylic dome material under severe outdoor conditions since 1940.

See for yourself why School Boards in 42 states agreed with the nation's leading architects last year . . . approved Wascolite Skydomes for nearly 100 schools. Mail the coupon for information.

Wascolite Skydomes®
PATENT PENDING

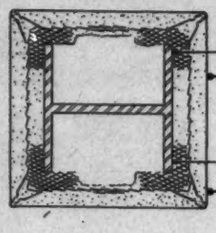
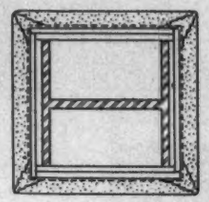
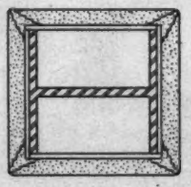
WASCO FLASHING COMPANY
82 FAWCETT ST., CAMBRIDGE 38, MASS.

☐ PLEASE SEND FOLDER ON SKYDOMES
☐ PLEASE HAVE REPRESENTATIVE CONTACT ME

NAME _____
TITLE _____
ORGANIZATION _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

FIREPROOFING WITH LIGHTWEIGHT PLASTER: 4

SUMMARY OF COLUMN AND SOLID PARTITION FIRE TESTS

		CONSTRUCTION	AVERAGE TEMPERATURE AT RATING INDICATED	DESCRIPTION	RATING	AUTHORITY	ITEM No.
COLUMNS	METAL LATH		785°F 2000	Column protected with 1½" vermiculite plaster over the face of metal lath. Lath spaced 1¼" from column flanges. Space behind lath on flange faces filled with plaster, as shown.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2851—5/10/49	1.
			802°F 1925	Same protection as above except 1" vermiculite plaster over face of metal lath.	3 hrs.		
	GYPSUM LATH			Column protected with 1½" vermiculite plaster applied over two layers of ½" thick long length plain gypsum lath wrapped with one layer of hexagonal mesh poultry netting.	4 hrs.	National Bureau of Standards Test 294	2.
				Same protection as above except 1" vermiculite plaster applied over gypsum lath.	3½ hrs.		
				Column protected with 1" vermiculite plaster applied over one layer of ⅜" thick perforated gypsum lath.	2 hrs.	National Bureau of Standards Test 294	3.
PARTITIONS	GYPSUM LATH			1" of vermiculite plaster applied to each face of ½" thick long length plain gypsum lath. No studs. Overall thickness of partition 2½"	2 hrs.	National Bureau of Standards Tests 300 & 301	4.
				¾" of vermiculite plaster applied to each face of ½" thick long length plain gypsum lath. No studs. Overall thickness of partition 2".	1 hr.		
	METAL LATH			Vermiculite plaster applied on metal lath fastened to incombustible studs spaced 16" on centers. Overall thickness of partition 2½".	2 hrs.	National Bureau of Standards Tests 298 & 299	5.
				Vermiculite plaster applied on metal lath fastened to incombustible studs spaced 16" on centers. Overall thickness of partition 2".	1 hr.		

Conquest of the elements, the electron harnessed, attack on illness—aspects of these and other accomplishments of special interest to architects and engineers are found in

Your Progress Report from Honeywell

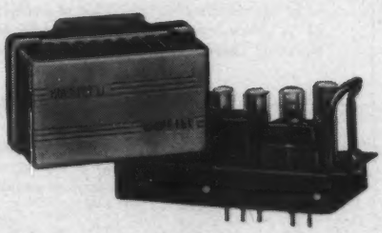
on the development of the science of temperature control

THERE'S a direct—and mighty important—relationship between the Honeywell products displayed on these two pages and the photo montage you see above.

Because one of the most important parts of Honeywell company policy from the beginning has been an insistence on thorough, painstaking research.

That's one big reason why Honeywell has been able to contribute so much to the development of the science of temperature control.

And that's why—when you specify Honeywell products like the eight shown here—you know you're giving your client the finest available anywhere.



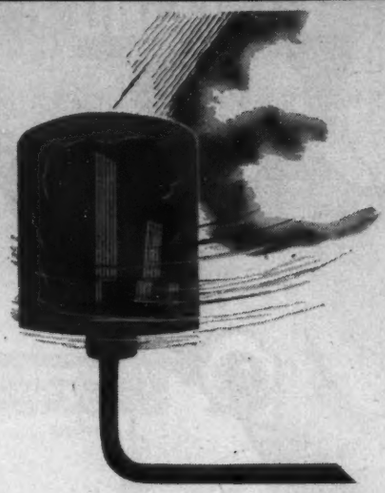
The sensitivity of electronics applied to

Air Conditioning Control

Here's a new system that enables you to give clients the ultimate in comfort—with increased efficiency and lower maintenance costs. Because it is *electronic*, it's *100 times as sensitive* as conventional systems—with faster reaction to changes in load, no temperature "overshoot," no waste of warm *or* cool air.

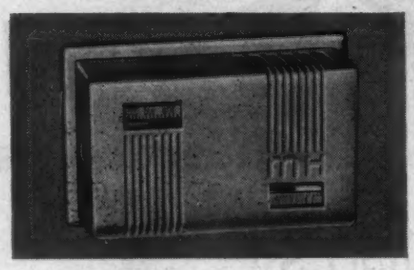
Humidity Control

A system that out-performs them all! That's what Honeywell's new Electronic Humidity Control System does—with an accuracy that a few years ago was considered unattainable. Ideal for use where conditions demand absolutely *uniform* humidity, it's a *thousand times* more sensitive than ordinary systems.



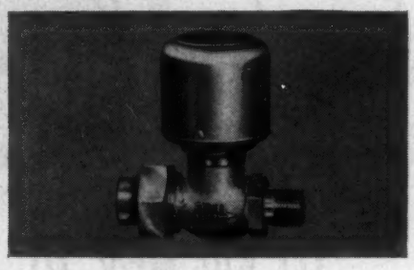
Weatherstat—compensates for wind, sun and exposure

Here's a product unique with Honeywell—the Weatherstat—only outdoor control system of its kind. It's remarkably accurate because it meters heat not only in relation to outside temperatures, but to *wind and sun conditions as well!* This amazing control is designed for use on all larger buildings. Mounted out-of-doors, it gives highly effective temperature control *indoors* because it functions as a miniature of the building or area of the building it controls. And it saves up to 20% on fuel.



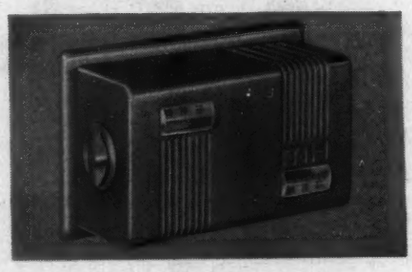
Shockproof equipment tested at sea

Honeywell controls like the Grad-U-Stat shown above have passed the toughest use-test of all—service at sea. Experience gained in making vibration-proof, corrosion-proof sea-going controls has enabled Honeywell engineers to design controls that give a better, more satisfying performance in buildings ashore.



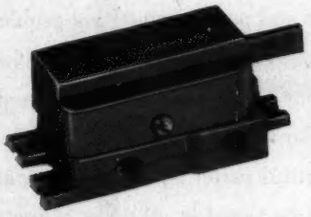
"Midget" Radiator Valve a great space saver

Only *one-fourth* the size of conventional valves, the Midget Radiator Valve delivers top performance. Its compactness makes it ideal for concealed convectors—and for all other applications where you're pressed for space. And because of its small size, it's easier to install and maintain.



Only Thermostat specially designed for hospital use

Designed to give maximum hospital efficiency, the Honeywell hospital thermostat offers many exclusive features. Features like the "*Nite-Glowing*" *dials* which permit inspection without disturbing patients; *magnified numerals* for easier readings; a *Speed-Set control knob* that's camouflaged against tampering.



Gradutrol Relay—first in its field

This Honeywell-developed control has made possible a marked increase in efficiency of pneumatic air conditioning and fan ventilating systems. When used to control damper motors its positive positioning feature cuts down "lag," eliminates "overshoot"—giving your clients better, more even, more economical cooling. And in valve applications the Gradutrol Relay guarantees the most economical sequencing.

MINNEAPOLIS **Honeywell**

First in Controls

Automatic Reset Relay ends "cycling"

When Honeywell engineers developed the Reset Relay (shown above, teamed with a Honeywell Grad-U-Stat), they opened the way to vastly improved pneumatic heating systems. For a pneumatic system incorporating this remarkable new control simply doesn't allow "seesawing" temperatures. The Reset Relay reduces offset by 90%, and allows wider throttling range settings, thus giving the system greater stability with no "hunting" or "cycling," and allows your clients to keep temperatures constant no matter how changeable the weather.

* * *

For additional information on how these Honeywell products and systems can help *you* better serve your clients, call your local Honeywell office. There are 91—located across the nation. Or fill in and mail the coupon below today.

MINNEAPOLIS-HONEYWELL
Dept. AR-3-62,
Minneapolis 8, Minn.

Gentlemen: Please send me further information on:

- ☐ Weatherstat
- ☐ Midget Radiator Valve
- ☐ Shockproof Controls
- ☐ Gradutrol Relay
- ☐ Electronic Air Conditioning Control
- ☐ Electronic Humidity Control
- ☐ Hospital Thermostat
- ☐ Automatic Reset Relay

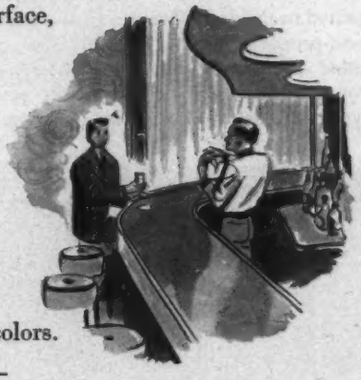
Name.....

Firm Name.....

Address.....

City..... *Zone*..... *State*.....

"Sure! Length is more practical in plenty of places!"



On counters, cabinets, bars, or any long surface, Consoweld's exclusive 16-foot panels offer practical advantages over other decorative plastic surfacing. With fewer butted seams, color and pattern matching problems are minimized, installation is simplified.

Consoweld is also available in all standard panel sizes and in a wide range of beautiful patterns, wood grains, and solid colors.

Time-tested in all types of installations—residential, commercial, industrial and institutional—Consoweld is moisture and alcohol-proof, burn-resistant, and practically indestructible through ordinary wear. It meets or exceeds NEMA standards for laminated thermosetting decorative sheets.

Details and specifications are in Sweet's Architectural File 14g/Co.

Write for color samples and name of your nearest distributor.

CONSOWELD

plastic surfacing . . . *good for a colorful lifetime*

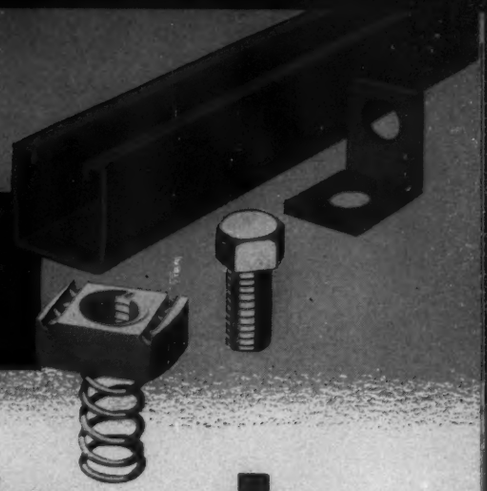
CONSOLIDATED WATER POWER AND PAPER COMPANY, WISCONSIN RAPIDS, WISCONSIN
MAKERS OF CONSOWELD INDUSTRIAL LAMINATES AND IMPREGNATED PAPERS

typical UNISTRUT framing applications

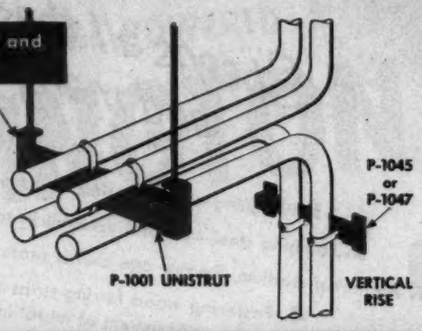
TO SUPPORT, SUSPEND AND MOUNT ALL KINDS OF MECHANICAL PIPING

No drilling, no welding, no special tools or equipment—adjustable UNISTRUT framing assures exact slope or pitch!

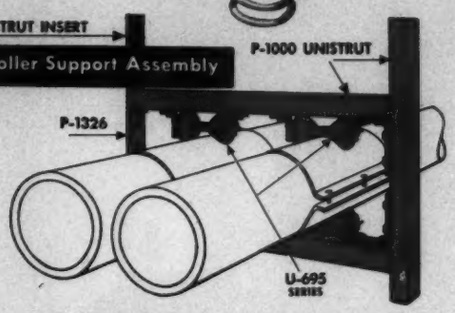
The UNISTRUT method conserves steel, reduces manpower hours, cuts overall costs.



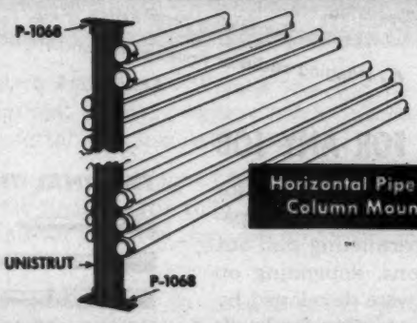
Trapeze Hanging and Vertical Rise



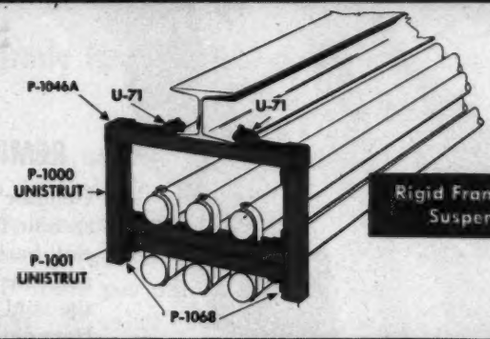
Pipe Roller Support Assembly



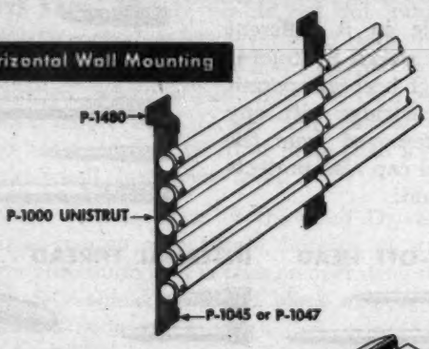
Horizontal Pipe Run, Column Mounted



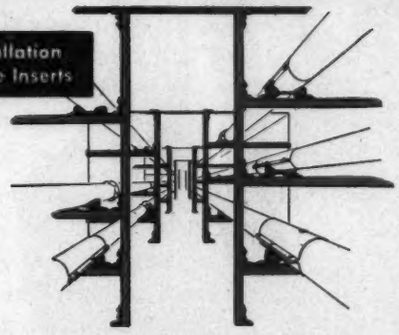
Rigid Frame Beam Suspension



Horizontal Wall Mounting

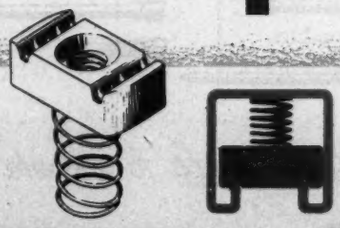


Tunnel Installation with Concrete Inserts



Only UNISTRUT

offers this Spring-Held Clamping Nut which ties together both sides of the slotted channel and forms a *Box Section* at points of connection for greater load strength.



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of New 78-page Catalog No. 700! Includes above drawings and countless other examples of how to mount, rack, frame, suspend and support all kinds of mechanical and electrical equipment.

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For Defense Production—Every day the value of UNISTRUT products is being proved by their use in Defense Industries and Armed Services installations where flexibility, and assembly and erection speed count most.

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NOW!

Speeds all these jobs— and many more!

1. Fastening wood sleepers to concrete floor slab.
2. Hanging steel sash and door bucks to concrete and brick.
3. Anchoring stadium, theatre and church seats to concrete or brick.
4. Fastening wood furring strips to concrete for attachment of metal lath.
5. Anchoring wood plates to concrete floors and ceilings for setting partitions.
6. Hanging radiator housings to concrete or brick.

REMINGTON STUDS FOR ANY JOB

Genuine Remington studs are designed for specific fastening jobs. They are made of special hardened steel alloys permitting pull-out resistance as high as 2 tons, depending on the stud used. These studs were developed by Remington after exhaustive testing for hardness, strength and profile.

Cartridges are available in 5 different power loads, each clearly marked by colored plastic heel caps. These tough heel caps permit instant assembly of any cartridge with any Remington stud. Easily removed from the stud after driving, the heel cap also protects the thread of the driven stud.

EXTERNAL THREAD

STANDARD HEAD

BREAK-OFF HEAD

INTERNAL THREAD

Only Remington studs are identified by this target trademark on the head—it's your assurance of safe, dependable fastening.

It's fast, easy and safe to operate The Remington Stud Drive

Simply hand-assemble stud and power cartridge, load as a unit in easy-to-open Remington Stud Driver, and close.

Then press loaded Stud Driver firmly against surface, depress safety lever, and pull trigger.

Explosive charge imbeds stud solidly. Open Stud Driver with a twist of the wrist, eject empty shell, load next stud. Whole job takes seconds.

Do your construction fastening up to 100 times faster with the

NEW CARTRIDGE-POWERED MODEL 450

REMINGTON STUD DRIVER

and do it safely!

LOOK AT ALL THESE FEATURES

COMPACT AND PORTABLE—Weighs only 5½ pounds, ideal for scaffold, ladder, overhead work, inaccessible places. Comfortable to use in any position.

SPEED—One man can set up to 5 studs per minute, as much as 100 times faster than other methods. Sets stud at whatever depth is required up to 2¾ inches, depending on material.

ELIMINATES INVESTMENT in outside power source—Self-powered. Especially useful in isolated places.

FOUR WAYS SAFE—Plainly visible red dot indicator shows when it's cocked; safety lever must be depressed before and during squeezing of main trigger; permanently attached safety shield must be compressed against work before Stud Driver will operate. Stud Driver will not operate if tilted at more than a slight angle. Slight recoil. Low noise level.

RUGGED—All working parts of the Stud Driver are made of heat-treated alloy steels, housing of strong, light weight aluminum that carries no operating stress. Lining of safety shield is a solid block of tough, resilient Du Pont neoprene.

PRICE for Model 450 Remington Stud Driver complete in rugged steel carrying case—only $119.50.

Firmly fastens steel or wood to concrete or steel *in seconds!*

With the amazing new Remington Stud Driver you can set fastening studs up to 100 times faster than with conventional methods . . . and cut costs, too. This revolutionary fastening tool easily sets as high as 5 studs per minute . . . with no outside power source—no other equipment needed!

Easy to operate, the Remington Stud Driver weighs only 5½ pounds. It's compact, rugged and safe! With one lightning-fast operation, this self-powered tool firmly fastens steel or wood structural pieces and fittings to concrete or steel surfaces . . . a squeeze of the trigger and the job is done!

Test-proved to be the world's finest and speediest fastening system, the Model 450 Remington Stud Driver is made by Remington Arms Company, Inc., *America's oldest and foremost sporting arms manufacturer*. To obtain detailed information on this time- and money-saving tool, and for the name of your nearest distributor, fill out and mail the coupon below.

"If It's Remington—It's Right!"

Remington

DU PONT

Remington Arms Company, Inc.
Industrial Sales Division
932 Barnum Ave., Bridgeport 2, Connecticut

I am interested in obtaining descriptive literature on the Model 450 Remington Stud Driver.

*Name*_____

*Firm*_____

*Position*_____

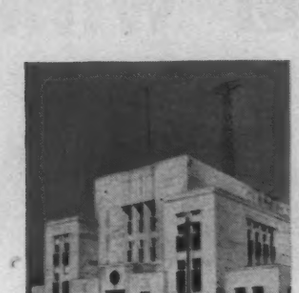
*Address*_____

*City*_____ *State*_____

Advertisement

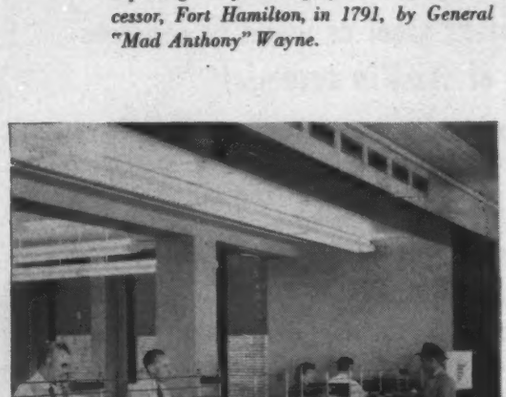
MUNICIPAL BUILDING in historic Hamilton, Ohio,

is air conditioned throughout with Frigidaire equipment

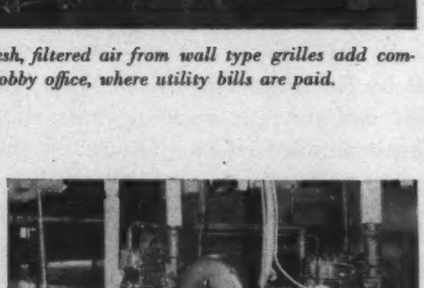


Overlooking picturesque Memorial Park and Miami River, the Hamilton Municipal Building is an imposing landmark in this pleasant Ohio city.

City council chamber is dominated by mural depicting the founding of the city's predecessor, Fort Hamilton, in 1791, by General "Mad Anthony" Wayne.



Cool, fresh, filtered air from wall type grilles add comfort to lobby office, where utility bills are paid.



Frigidaire water-cooled compressor has step control for automatically regulating capacity to meet changing load requirements.

A city government that has taken advantage of modern refrigeration equipment to facilitate and improve its activities can be found in the progressive city of Hamilton, Ohio, whose municipal building is one of the most modern in the country.

The Frigidaire refrigeration equipment installed in this building includes two large central system air conditioners; and a large central water refrigeration system providing fresh, cool water for three remote drinking fountains.

A 20-ton system furnishes air conditioning for the 4th floor utility offices, council chamber, city manager's offices and utility director's offices. The 15-ton system, located in the basement, supplies conditioned air to the police department and Municipal Court chambers.

This air conditioning system has been in operation for 12 years and during that period only one minor servicing job has been necessary. So, whatever your next air conditioning problem is, why not call the Frigidaire Dealer, Distributor or Factory Branch that serves your area? Look for the name in the Yellow Pages of your phone book. See Frigidaire catalogs in Sweet's Files or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Leaside (Toronto 17), Ontario.

FRIGIDAIRE America's No. 1 Line

of Refrigeration and Air Conditioning Products

Refrigerators • Electric Ranges • Home Laundry Equipment
Food Freezers • Water Coolers • Electric Water Heaters • Air Conditioning
Electric Dehumidifier • Commercial Refrigeration Equipment

Frigidaire reserves the right to change specifications, or discontinue models, without notice

VAMPCO ALL-ALUMINUM WINDOWS

Watertown, N. Y. High School
Architects: Beardsley and Beardsley;
Associates: Sargent, Webster, Crenshaw and Folley.
Contractor: A. Friederick & Sons Co.

LOWER INSTALLATION COSTS—because they're shipped completely assembled, hardware in place, precisely accurate for installation in a matter of minutes.

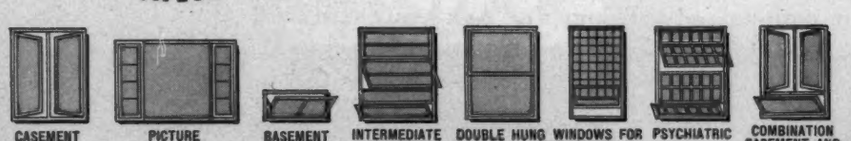
ZERO MAINTENANCE COSTS—because VAMPCO aluminum outlasts the building . . . never rusts or corrodes, eliminates costly painting and repainting.

LONGER TROUBLE-FREE SERVICE—because VAMPCO extrusions offer permanent rigidity under severe loading and stress—and NEVER quit on the job!

LOOK TO VAMPCO

Note how Vampco ribbon windows bear the entire load of heavy glass block panels in this Watertown school. Vampco's engineers will help you effect other important economies. Keep in touch with them!

FOR ALL THESE WINDOW TYPES — IN LIFETIME ALUMINUM



VALLEY METAL PRODUCTS COMPANY - PLAINWELL, MICHIGAN

COME TO CRANE FOR IDEAS

A NEW CONCEPT OF CO-OPERATION WITH THE ARCHITECT BY THE MAKERS OF "THE PREFERRED PLUMBING"

Starting this month, Crane is offering a new service to the public which also offers a new and substantial assistance to Architects who specialize in the design of homes.

We call this new service "Come to CRANE for ideas."

As featured in national advertising, this service offers scores of new, practical and satisfying ideas for bathrooms, kitchens, laundries, and utility rooms—both in new construction and in remodeling.

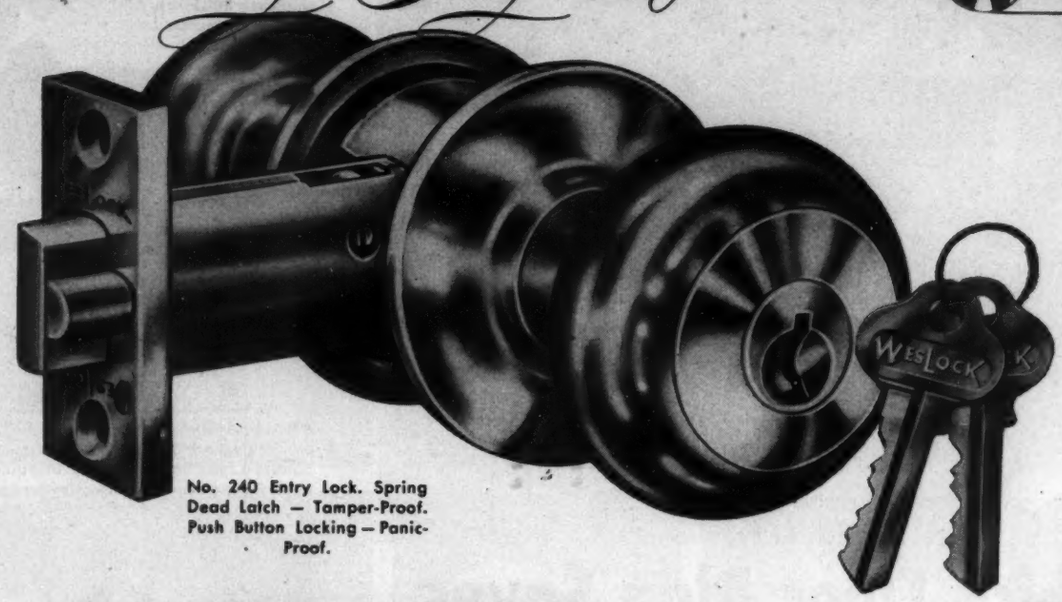
In addition to colorful illustrations of these exciting rooms Crane also provides the plans and decorating suggestions.

Ask your Crane Branch or Crane Wholesaler for complete details.

CRANE CO. GENERAL OFFICES: 836 SOUTH MICHIGAN AVE., CHICAGO 5

VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

Smartly Styled



No. 240 Entry Lock. Spring Dead Latch — Tamper-Proof. Push Button Locking — Panic-Proof.

...FOR EVERY DOOR IN THE HOUSE

ACCEPTANCE of WESLOCKS by architects, builders and lending institutions for use on many of the nation's largest building projects is evidence of the outstanding values the line offers. For example, all WESLOCKS have an easy spring latch with a light spring for the bolt and heavy-tension knob return—a feature found only in the most expensive locks. Also, WESLOCKS have key-in-knob construction, 5-pin tumbler locking mechanism for maximum security, split spindle, independent knob operation, factory assembled units, self-aligning feature and a wide choice of handles, ornamental escutcheons and finishes.

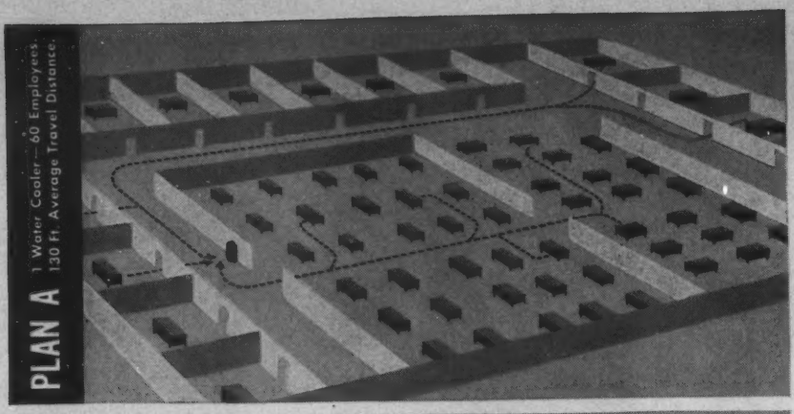
Best of all, WESLOCKS are priced to meet the most modest budgets. Truly, they offer you the best hardware value at any price.

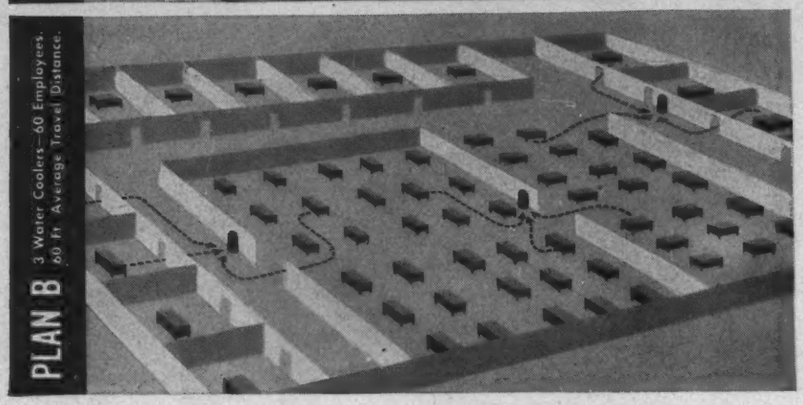
Send today for catalog.

Another WESLOCK installation
Park Forest, Illinois. Contains a total of 3,010 apartments, 5,000 homes, a shopping center and light industrial area... living units are WESLOCK equipped.
Architects: Loebl, Schlossman & Bennett, Chicago, Ill.
Builder: American Community Builders, Inc., Chicago, Ill.
Hardware Contractor: Schuham Hardware Co., Chicago, Ill.

WESTWOOD MANUFACTURING CO.
P.O. Box 2261, Terminal Annex.
Los Angeles 54, California

WESLOCKS





Which Floor Plan Saves $1780 in Five Years?

New General Electric Work Center Plan for Water Cooler Placement shows exactly how much can be saved by a more efficient drinking water layout

Long trips to drinking water can be surprisingly expensive in terms of wasted man-hours. In the example above two more water coolers cut these costs enough to pay for the additional equipment the very first year—and to bring a net saving in five years of $1,780.

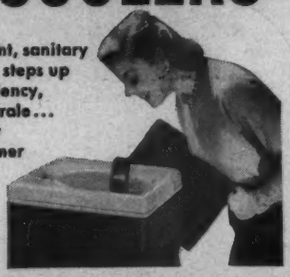
A new study by General Electric makes it now possible for you to check your own drinking facilities quickly and easily. You can see for yourself whether additional units will save you enough to make their purchase worthwhile.

Fill out the coupon below and send for your free copy of the booklet, "G-E Work Center Plan for Water Cooler Placement." It contains all the information you need to find the most economical plan for your business establishment.

Look for your local G-E dealer's name in the classified pages of your telephone book.

WATER COOLERS

Cool, convenient, sanitary drinking water steps up employee efficiency, health, and morale... boosts sales by building customer goodwill.



ANGLE-STREAM, NON-SQUIRT BUBBLER... Bubbler guard of polished aluminum alloy. Stream angled to avoid water dripping back. Slotted nozzle prevents mischievous squirting.

DIAL THE WATER TEMPERATURE YOU WANT... Control knob easily reached behind front panel, yet concealed against tampering. Temperature automatically controlled.

SURE-TREAD FOOT PEDAL CONTROL... Easy to use—permits drinking when hands are full. Sanitary—avoids transfer of germs from user's hands to bubbler.

You can put your confidence in—

GENERAL ELECTRIC

FREE!

ILLUSTRATED BOOKLET GIVING PAYROLL SAVINGS TABLE, 5-STEP METHOD, AND TYPICAL FLOOR PLAN

General Electric Company, Section AR-1
Air Conditioning Division, Bloomfield, New Jersey

I am interested in learning more about the G-E Work Center Plan.

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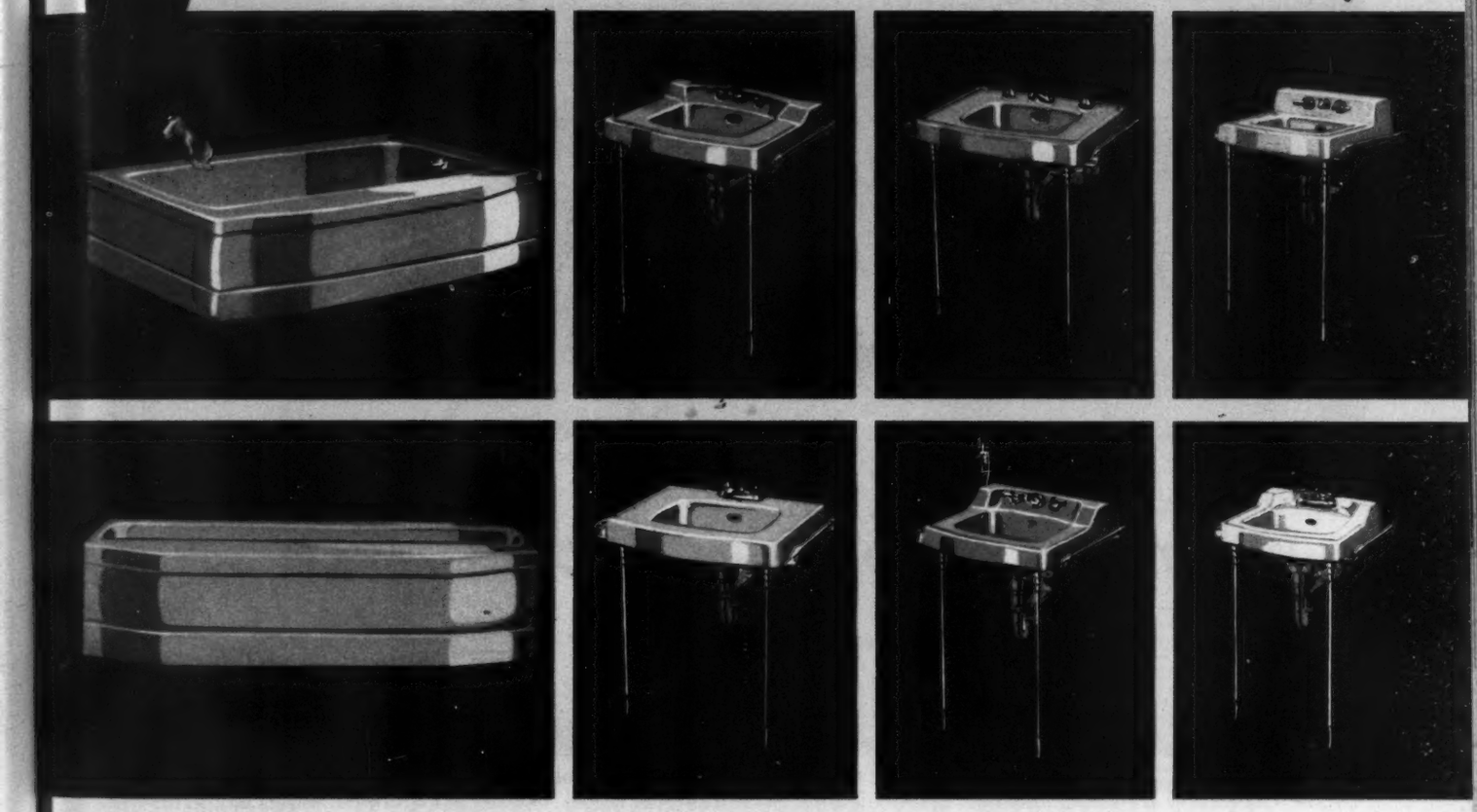
NOW glamorous new styling in the finest modern fashion



BRIGGS *Beautyware*

PLUMBING FIXTURES IN COLOR

More and More reasons why Mr. and Mrs. America prefer these brilliant formed steel fixtures!

If you know Briggs Beautyware plumbing fixtures, you undoubtedly know about the years of pioneering development work—the intensive program of product improvement—responsible for the tremendous popularity of these fast-selling, top-quality fixtures.

Now Briggs gives you *new* beauty—*extra* smartness—*added* eye appeal—sure to increase this popularity still further. Many of the Briggs porcelain enameled, formed steel lavatories and each of the tubs have been completely redesigned—restyled throughout! Several entirely new lavatories have been added. This dramatic new line is ready now to take its place with the superb Briggs vitreous china water closets, lavatories and urinals—to make doubly certain that Briggs Beautyware keeps out in front as the most brilliant, most desirable line on the market!

Remember—Briggs Beautyware bathroom fixtures are available in Sky Blue, Sea Green, Ivory and Sandstone, as well as sparkling white. *All* Briggs colors are non-fading; *all* Briggs fixtures are stain-proof and acid-resistant.

See the *new* Briggs Beautyware *now!*

BRIGGS MANUFACTURING COMPANY • 3001 MILLER AVENUE • DETROIT 11, MICHIGAN

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Westside Grade School, Springfield, Oregon. Architects—Wilmsen & Endicott Eugene Oregon.

Here's "Recommended Practice" —Applied

Enough light of the right quality has been proved a determining factor in the physical welfare of children. Just how much is "enough" has been precisely set down by the Committee on Recommended Practice for Daylighting. There is no justification for not providing enough of the right kind of light from natural daylight when it can be done easily and economically with Daylight Walls.

Daylight Walls achieve the eye-comfort which this committee has defined in terms of quantity and quality of light. A Daylight Wall is made with clear glass from wall to wall and sill to ceiling in order to admit maximum light. Clear glass is used because it transmits more light than glass in any other form, as much as 40% more than some forms of nontransparent glass. Correct interior decoration combined with a Daylight Wall eliminates glare, and meets the recommended requirements for even distribution of light throughout the room.

The main problem in most of the United States is to get *enough* light, because most of the country is clouded over during much of the school year. Light enters a classroom from three sources: direct sunlight, skybrightness, and reflected light from the ground and nearby surfaces. When direct sunlight is not available there is still skybrightness which is naturally diffused. Reflected light, especially from light-colored play areas, has been found to provide 30% and more of the classroom light. A Daylight Wall of clear glass takes full advantage of all three sources of light.

Of course, Daylight Walls are as applicable to offices, hospitals and factories as they are to schools, for adults also require the same eye-comfort. Write for our free literature on this subject. It is something which everyone should understand.

FOR WINDOW INSULATION

Thermopane® insulating glass is widely and successfully used. *Thermopane*, with ½" of dry air hermetically sealed between two panes, has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows. *Thermopane* cuts air conditioning cost by reducing the amount of heat entering during summer. Write for *Thermopane* literature. Libbey-Owens-Ford Glass Company, 4132 Nicholas Building, Toledo 3, Ohio.

L-O-F GLASS

DAYLIGHT WALLS

THAT DON'T OBSCURE VISION

THERMOPANE • PLATE GLASS • WINDOW GLASS

Other L-O-F Glass Products: Vitrolite* Safety Glass E-Z-Eye Safety Plate Tuf-flex* Plate & Doors Fiber-Glass

New! 4 closet combinations by RICHMOND

The *actual appearance* and *features* of these 4 new closet combinations are your best reasons for specifying and installing them. Their addition to the Richmond line of plumbing fixtures now makes it even more modern, even more complete than ever before.

Whether it's a vitreous china closet combination, lavatory, urinal or an enameled cast iron bathtub, lavatory, sink in "whiter white" or pastel colors, you'll find Richmond offers the widest possible selection in size and style, the finest quality in design, engineering, and manufacturing skill.

PLYMOUTH G-212—14" Close-coupled reverse trap. Round-front bowl, self-draining jet. Tank with fittings and shelf-type cover.

LARCHMONT G-206—12" Close-coupled syphon jet, round-front bowl. Tank with adjustable float valve, brass tank fittings, chrome operating lever and shelf-type cover.

KENT G-218—14" Close-coupled, washdown. Round-front bowl, self-draining jet. Tank with fittings and shelf-type cover.

CORTLAND G-213—12" Close-coupled reverse trap. Elongated bowl, self-draining jet. Tank with fittings and shelf-type cover.

RICHMOND RR PLUMBING & HEATING

See your wholesaler or Mail Coupon Today.

Richmond Radiator Company AR/3
19 East 47th Street, New York 17, N. Y.

Please send me more information and literature on:

☐ G-206—12" ☐ G-212—14"
☐ G-213—12" ☐ G-218—14"

No obligation, of course.

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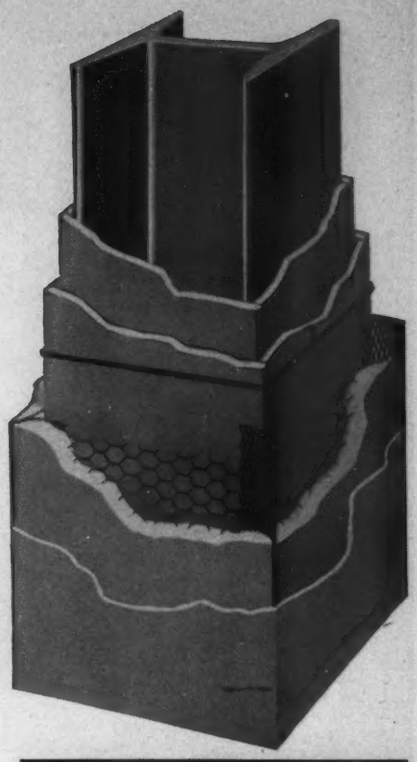
with new, lighter weight Gold Bond column fireproofing



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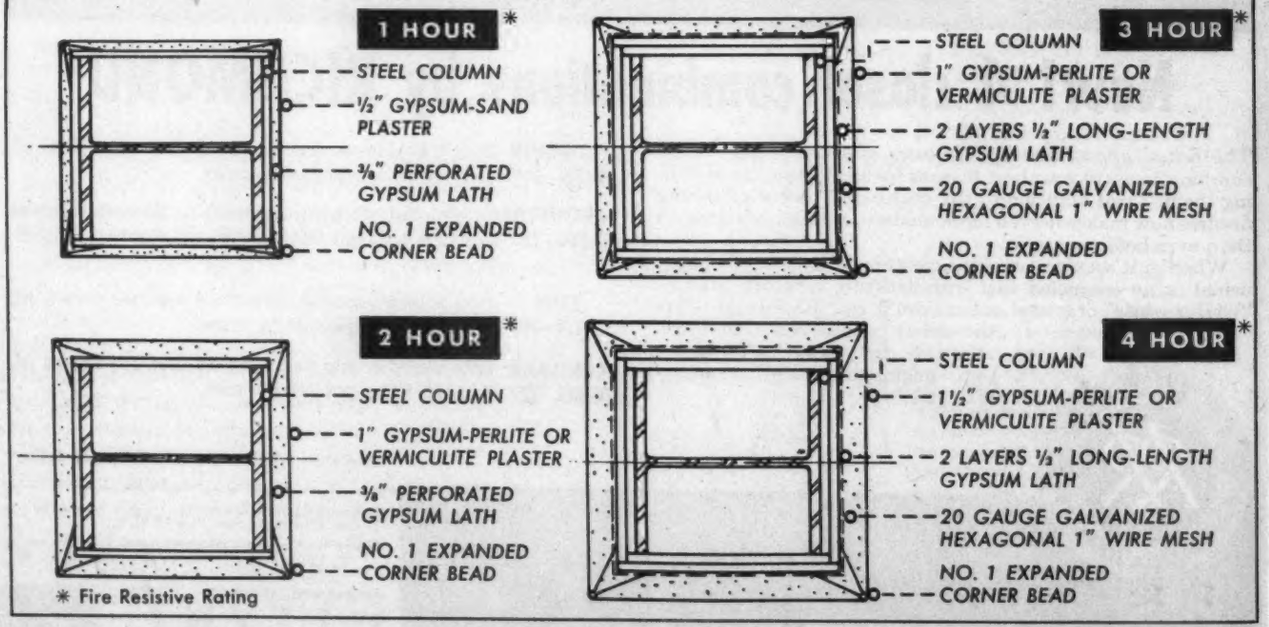
CONSTRUCTION DETAIL DRAWINGS


1 HOUR *
STEEL COLUMN
½" GYPSUM-SAND PLASTER
⅜" PERFORATED GYPSUM LATH
NO. 1 EXPANDED CORNER BEAD
3 HOUR *
STEEL COLUMN
1" GYPSUM-PERLITE OR VERMICULITE PLASTER
2 LAYERS ½" LONG-LENGTH GYPSUM LATH
20 GAUGE GALVANIZED HEXAGONAL 1" WIRE MESH
NO. 1 EXPANDED CORNER BEAD
2 HOUR *
STEEL COLUMN
1" GYPSUM-PERLITE OR VERMICULITE PLASTER
⅜" PERFORATED GYPSUM LATH
NO. 1 EXPANDED CORNER BEAD
4 HOUR *
STEEL COLUMN
1½" GYPSUM-PERLITE OR VERMICULITE PLASTER
2 LAYERS ½" LONG-LENGTH GYPSUM LATH
20 GAUGE GALVANIZED HEXAGONAL 1" WIRE MESH
NO. 1 EXPANDED CORNER BEAD

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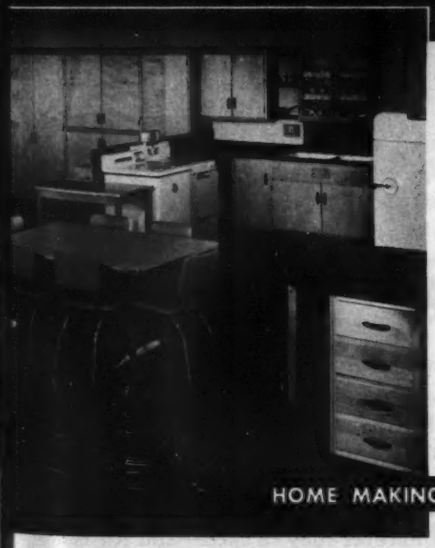

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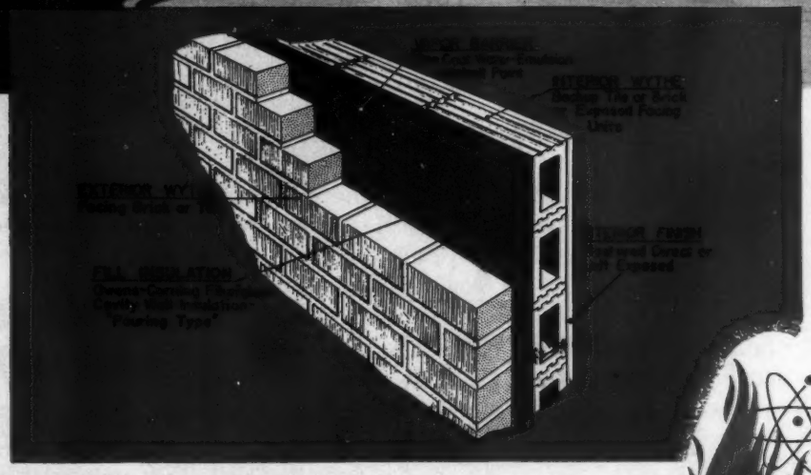

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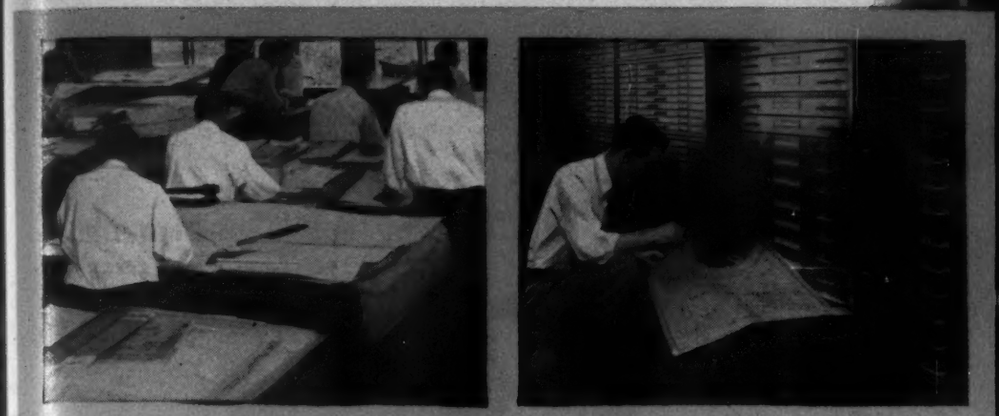

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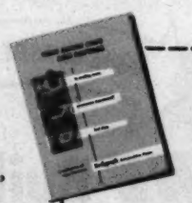

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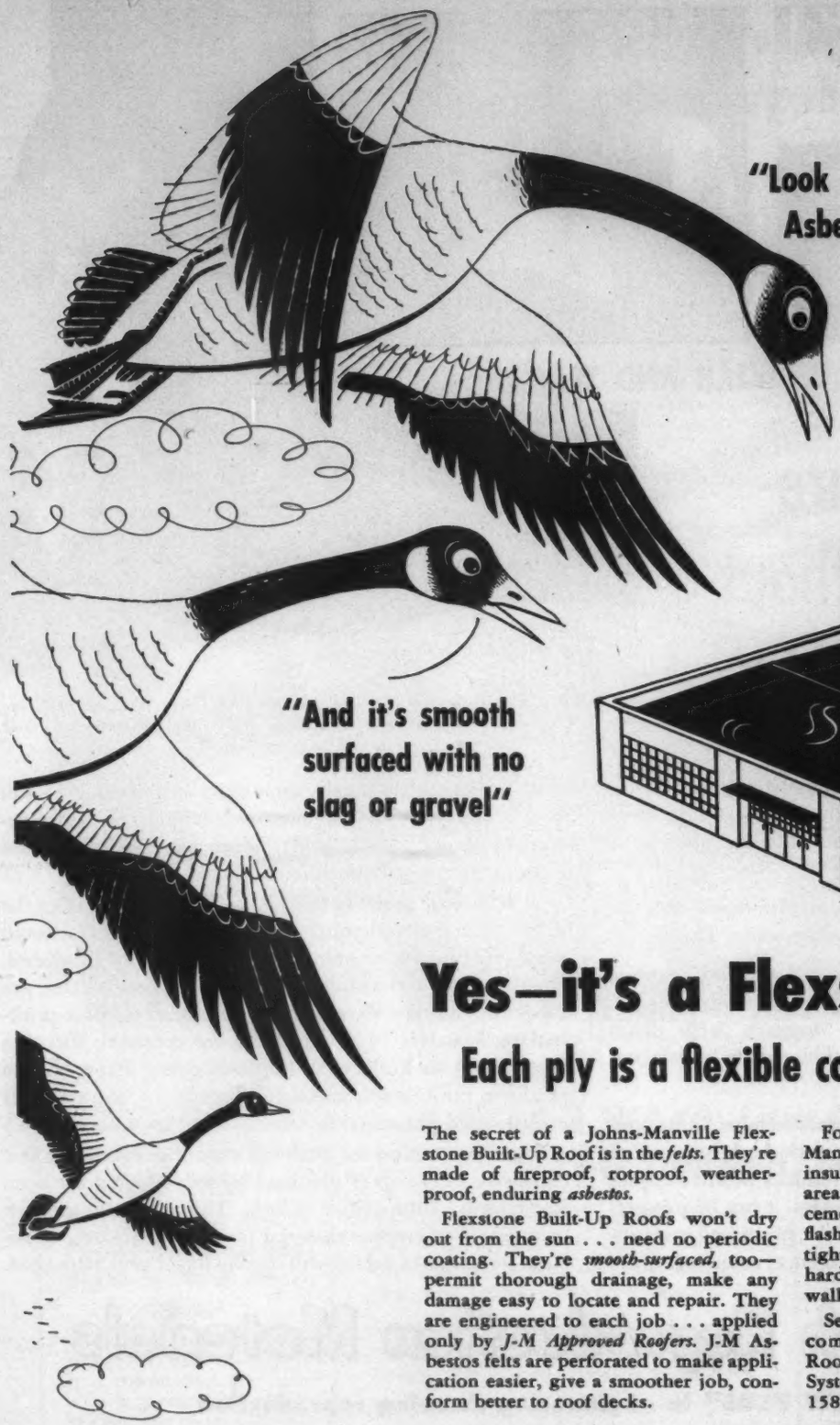
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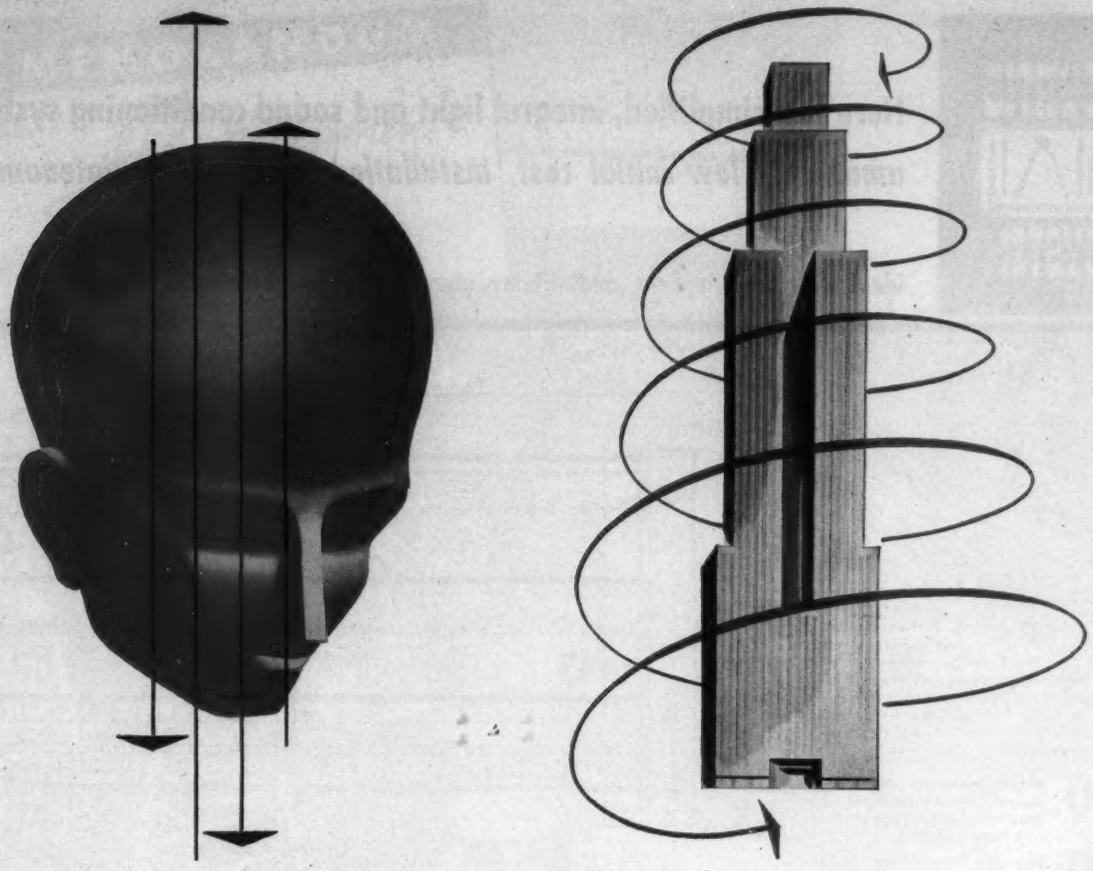

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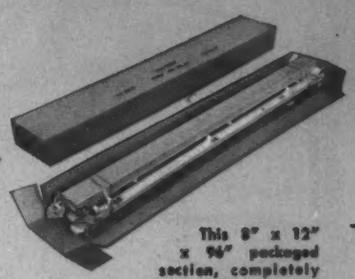

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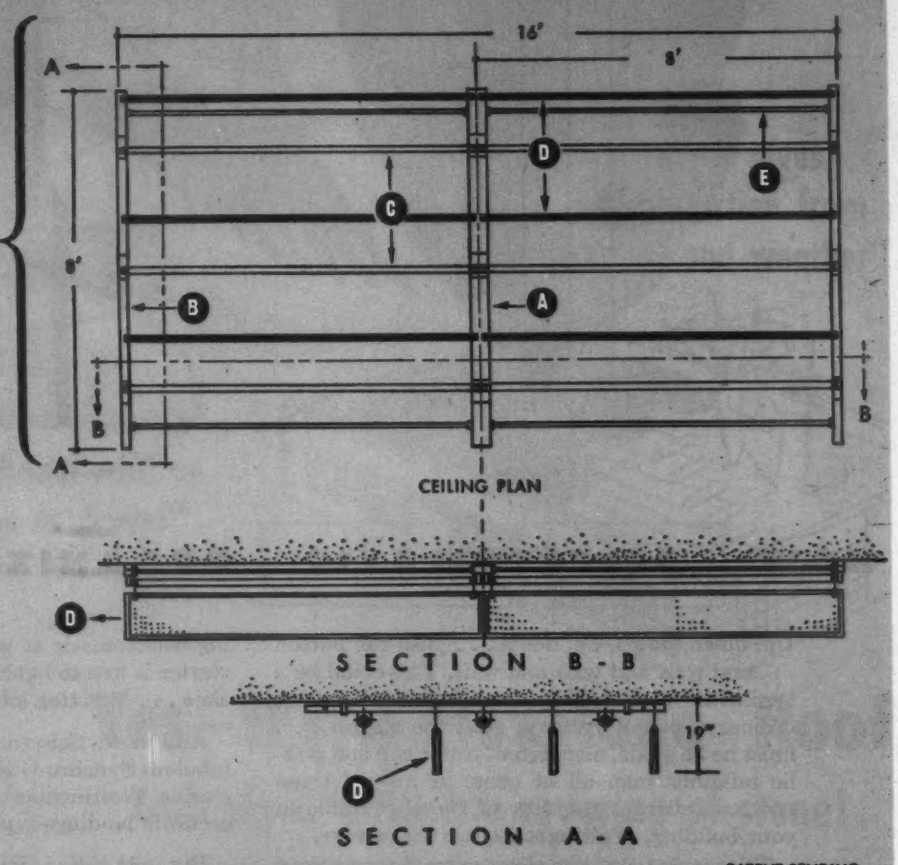

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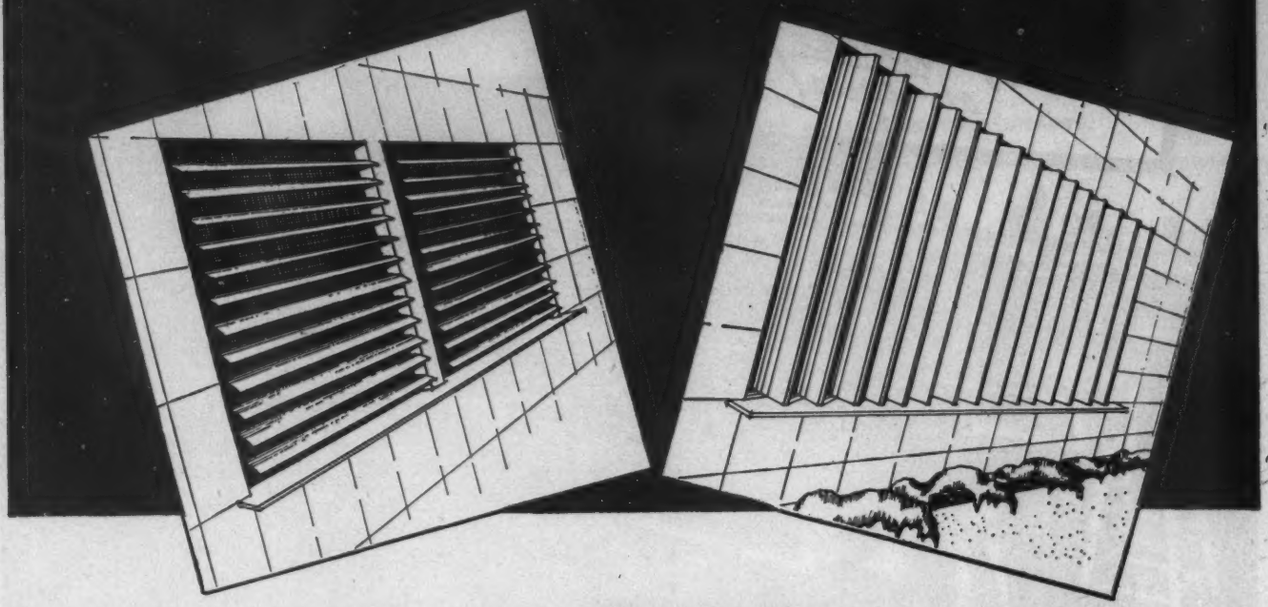

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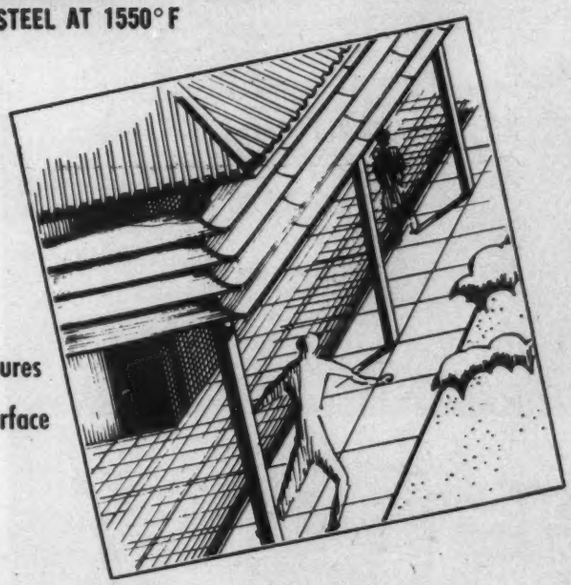

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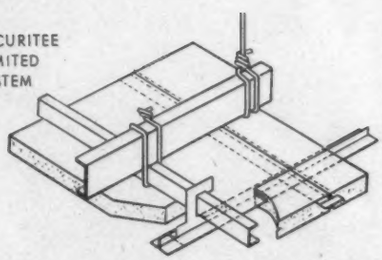

SECURITEE LIMITED CLIP

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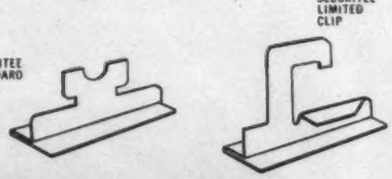

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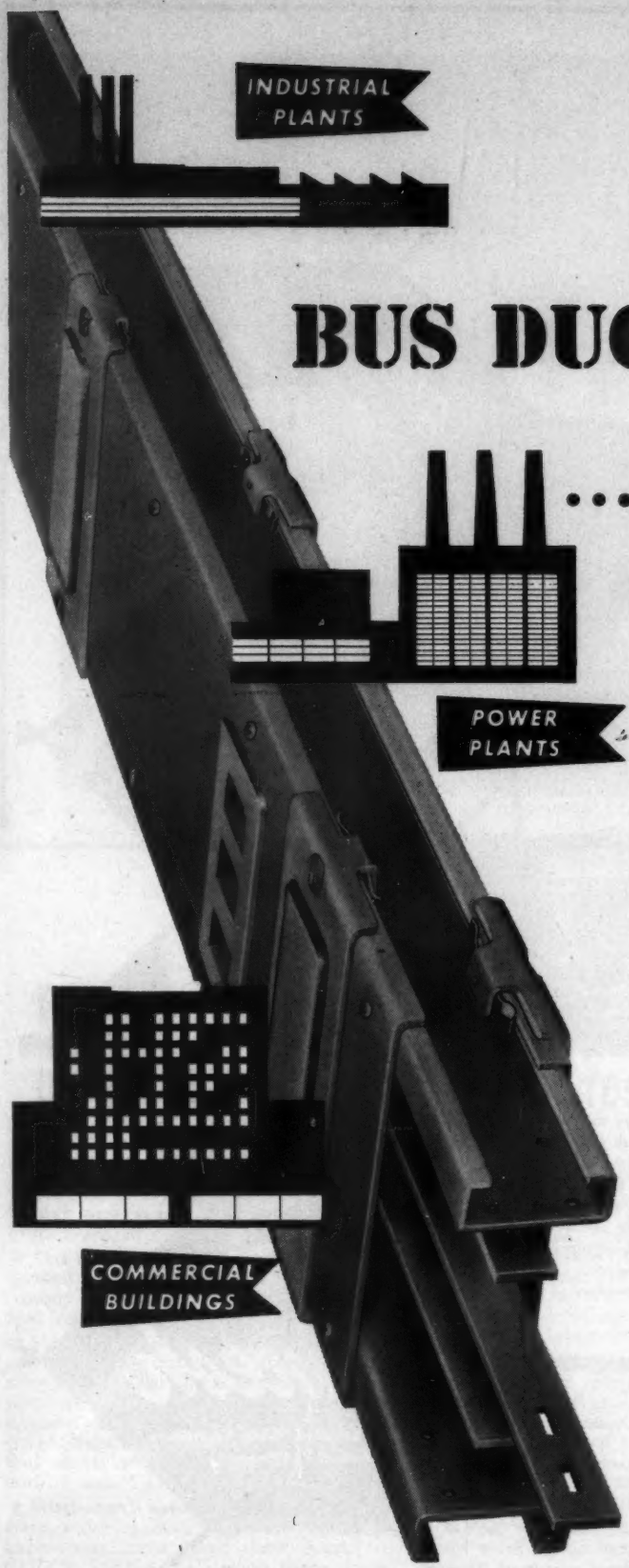

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● **Scientific research,** extending over nearly three-quarters of a century, has shown that color has a definite influence upon the physical, mental and nervous systems. Tests have proved that some colors stimulate and excite, others soothe and relax, still others depress, fatigue and irritate.

● **Pittsburgh's color experts** and technicians, working with hospital and medical authorities, have based their system of COLOR DYNAMICS upon these recognized reactions to the *energy in color.*

● **In many hospitals** where COLOR DYNAMICS has been applied, patients' rooms have been given colors that aid convalescence. Color has been used in operating rooms to relieve eye fatigue and lessen nervous tension of surgeons. Graduated steps of receding colors have lessened the feeling of claustrophobia by patients in labor rooms.

● **Color at nurses' stations** has promoted alertness and efficiency. The comfort, happiness and morale of resident staffs have been enhanced by the scientifically accurate choice of colors for their living quarters. By the purposeful use of color, housekeeping and maintenance problems have been simplified and reduced.

● **You, too,** can make the hospitals you are working on more efficient as well as more attractive institutions with COLOR DYNAMICS. You'll find the complete story of this new painting method clearly explained in a new booklet which we'll be glad to send you without cost. In it are numerous helpful and practical suggestions.

Special Color Engineering Study—FREE

● We'll gladly submit a scientific color engineering study of hospitals you may be planning or building, free and without obligation. Call your nearest Pittsburgh Plate Glass Company branch and have one of our trained color experts see you at your convenience. Or, mail this coupon.

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☐ Please send me a FREE copy of your Booklet *"Color Dynamics."*

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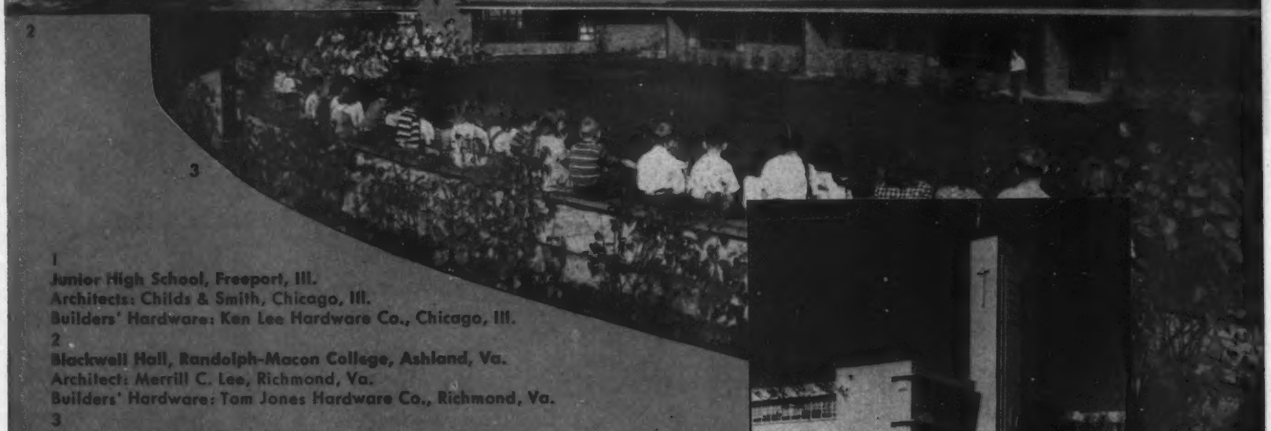
modern schools and universities everywhere choose G-J Door Devices



1
Junior High School, Freeport, Ill.
Architects: Childs & Smith, Chicago, Ill.
Builders' Hardware: Ken Lee Hardware Co., Chicago, Ill.

2
Blackwell Hall, Randolph-Macon College, Ashland, Va.
Architect: Merrill C. Lee, Richmond, Va.
Builders' Hardware: Tom Jones Hardware Co., Richmond, Va.

3
Blythe Park School, Riverside, Ill.
Architects: Perkins & Will, Chicago, Ill.
Builders' Hardware: Clark-Barlow Hardware Co., Chicago, Ill.

4
Incarnate Word High School, San Antonio, Texas
Architects: Julian & White, San Antonio, Texas
Builders' Hardware: Dumas Hardware Co., San Antonio, Texas

For over a quarter century Glynn-Johnson has manufactured door devices and specialties of original distinctive design. The quality built into each G-J product renders long, hard service for the protection and control of all types of doors in educational buildings.

Refer to G-J Catalog for complete line of door holders, bumpers, and specialties.

Floor Type

Push and Pull Action

DOOR HOLDERS AND BUMPERS

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G-J devices for all types of doors in modern school buildings:

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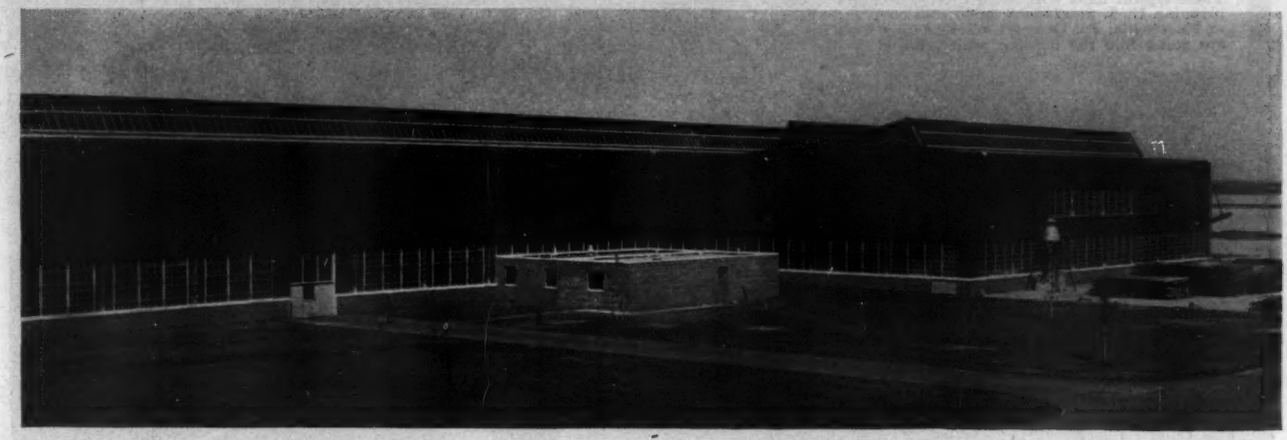
PLENTY OF LIGHT TO MAKE IT RIGHT!



Architect—Howard, Hickerson & Jordan, Nashville, Tennessee
Contractor—Foster & Creighton Company

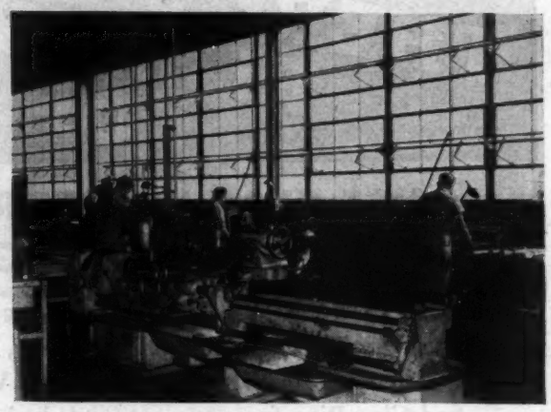
Over 85,000 sq. ft. of Coolite is installed in skylights and sidewalls at Calumet and Hecla Consolidated Copper Co., Inc., Wolverine Tube Div., Decatur, Ala.

87,000 Square Feet of Coolite Glass Floods Defense Plant with Natural Illumination for Accurate, Accelerated Shell Band Production

Manufacturing shell bands is an exacting process, for there is no place for mistakes on the firing line. To catch misfits before they can cause trouble, all work in this modern plant is carefully inspected by micrometer measurement . . . and to make that measurement as accurate and easy as possible, it is performed under natural daylight.

Under normal conditions the entire mill is illuminated perfectly by daylight admitted by Coolite, the heat absorbing glass by Mississippi. Coolite's hammered texture and delicate tint gives the transmitted light diffused and softened qualities inducive to greater eye comfort. Coolite absorbs solar heat rays, keeps workrooms degrees cooler, makes conditions more pleasant. This installation has proven effective and convenient and little artificial lighting is employed in the building.

Employees at precision tasks see better, work better, feel better under natural illumination controlled by Coolite, the Heat Absorbing Glass by Mississippi.



Softened, diffused daylight, filtered through Coolite aids seeing tasks and permits precision work without aid of artificial illumination during normal daylight hours.

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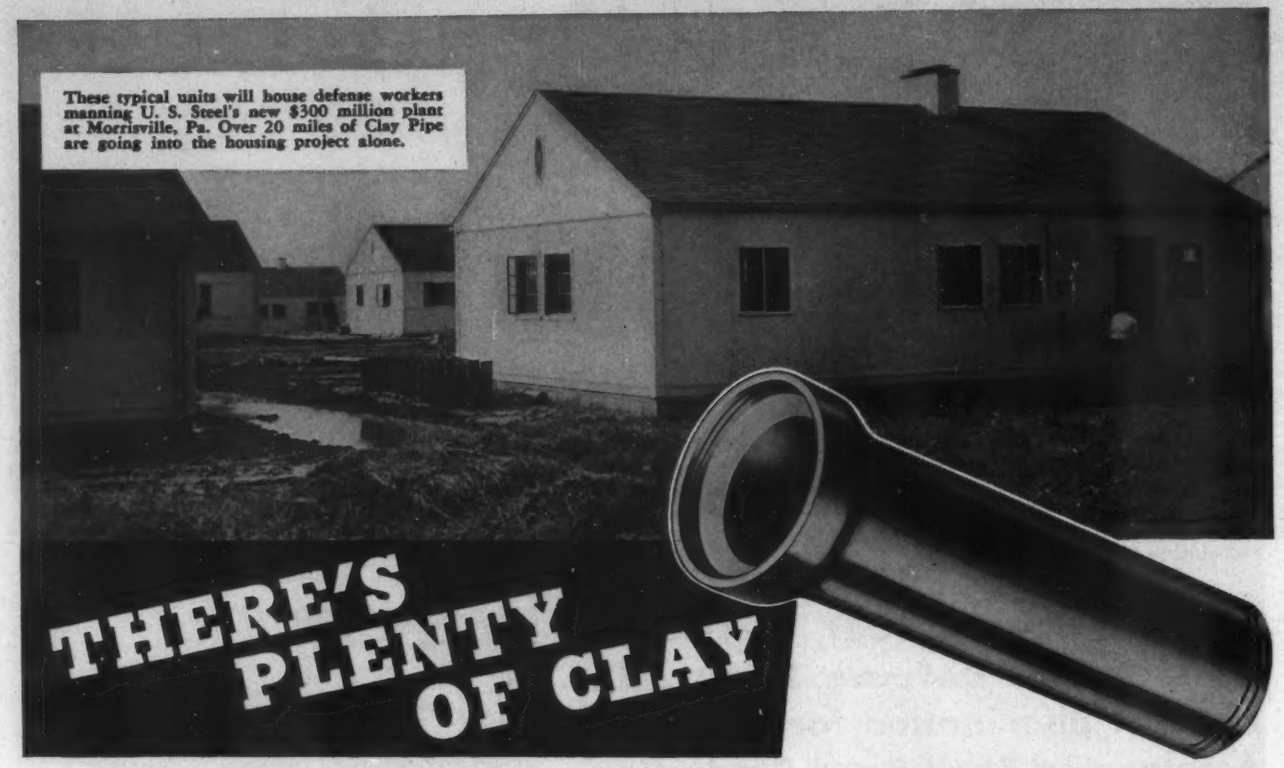
These typical units will house defense workers manning U. S. Steel's new $300 million plant at Morrisville, Pa. Over 20 miles of Clay Pipe are going into the housing project alone.
THERE'S PLENTY OF CLAY

USE CLAY PIPE FOR ESSENTIAL BUILDING

Architects and builders of a gigantic new housing project near Morrisville, Pa., have specified more than 100,000 feet of Vitrified Clay Pipe for sewerage and drainage. It's the *one* pipe architects can rely on for permanent, never-wear-out protection and maintenance of building schedules.

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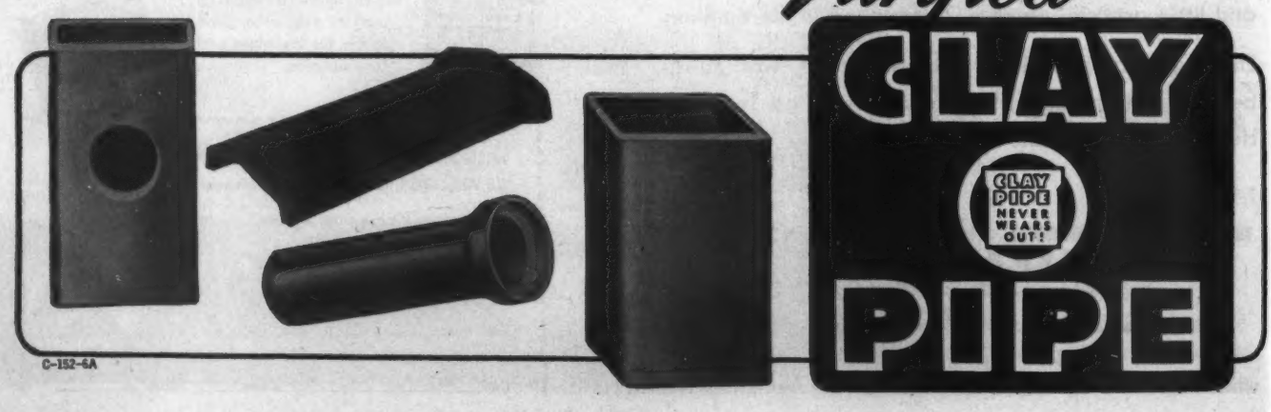
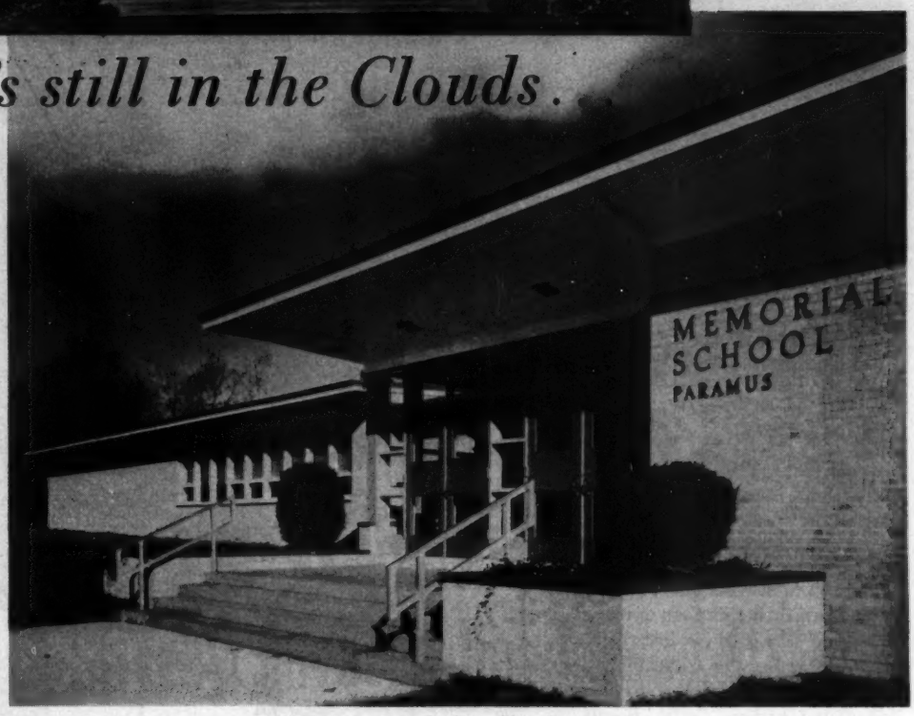


While it's still in the Clouds.



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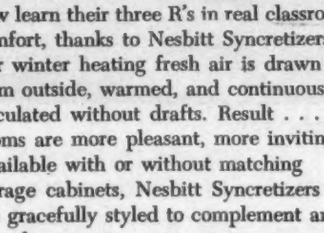
Children in schools all over the country now learn their three R's in real classroom comfort, thanks to Nesbitt Syncretizers. For winter heating fresh air is drawn in from outside, warmed, and continuously circulated without drafts. Result . . . rooms are more pleasant, more inviting. Available with or without matching storage cabinets, Nesbitt Syncretizers are gracefully styled to complement any schoolroom.



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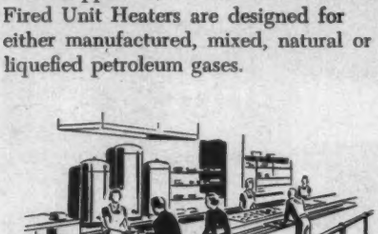
If you heat with gas and your present heating system is inadequate or inefficient, replace or supplement it with American Blower Gas-Fired Unit Heaters. They're built for long, hard service, are finished to harmonize with modern interiors. A.G.A.-approved, American Blower Gas-Fired Unit Heaters are designed for either manufactured, mixed, natural or liquefied petroleum gases.



MORALE BUILDER

Good food and a pleasant atmosphere just naturally go together. Many firms, with employee cafeterias, use American Blower Utility Sets to keep kitchens and dining areas well ventilated. The Utility Set is ideal for general ventilation where duct systems are required. It can be used as a supply or exhaust fan and is equipped with Aileron Control for regulation of airflow. They're available as standard packaged units ready for immediate installation.

Whether your needs are civilian or military, American Blower heating, cooling, drying, air conditioning and air handling equipment improves over-all comfort and efficiency. For data, phone or write our nearest branch office.

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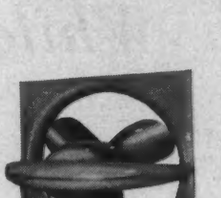

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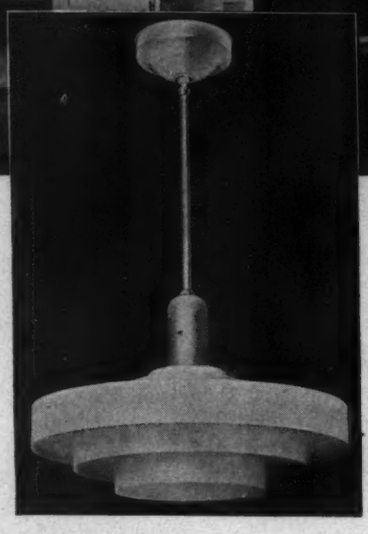

The Silvray 1500 Line — standard for schools, offices, and libraries and other locations having critical lighting requirements. When used with silvered-bowl lamps, light distribution is totally indirect. Easy-to-maintain *1500 Line units* are available in sizes from 150 to 1000 watts.

319* California schools install Silvray silvered-bowl lamp fixtures

In California alone, 319 schools have installed Silvray silvered-bowl lighting units in the past 18 months . . . while, throughout the nation, Silvray units are being specified wherever efficient, eye-conserving lighting is required.

Silvray installations are characteristically free from eye-torturing glare — both direct and reflected. Largely responsible for the visual comfort afforded by Silvray luminaires is their use of silvered-bowl incandescent lamps. Functioning as both a light-source and light-control element, they collect and direct light to the ceiling making *it* the primary source of diffused light. The resulting indirect light minimizes shadows and reflected images . . . permits certified efficiencies of 80 - 90%.

Yet, a Silvray installation is within reach of every school building budget. In fact, Silvray equipment — because of its low initial cost, maintained efficiency of light-output and simplified maintenance — is often lower in overall expense than other lighting systems.

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**A partial count of Silvray — and Silvray-licensee — installations made in California schools during the past 18 months. Names will be sent to you upon request.*

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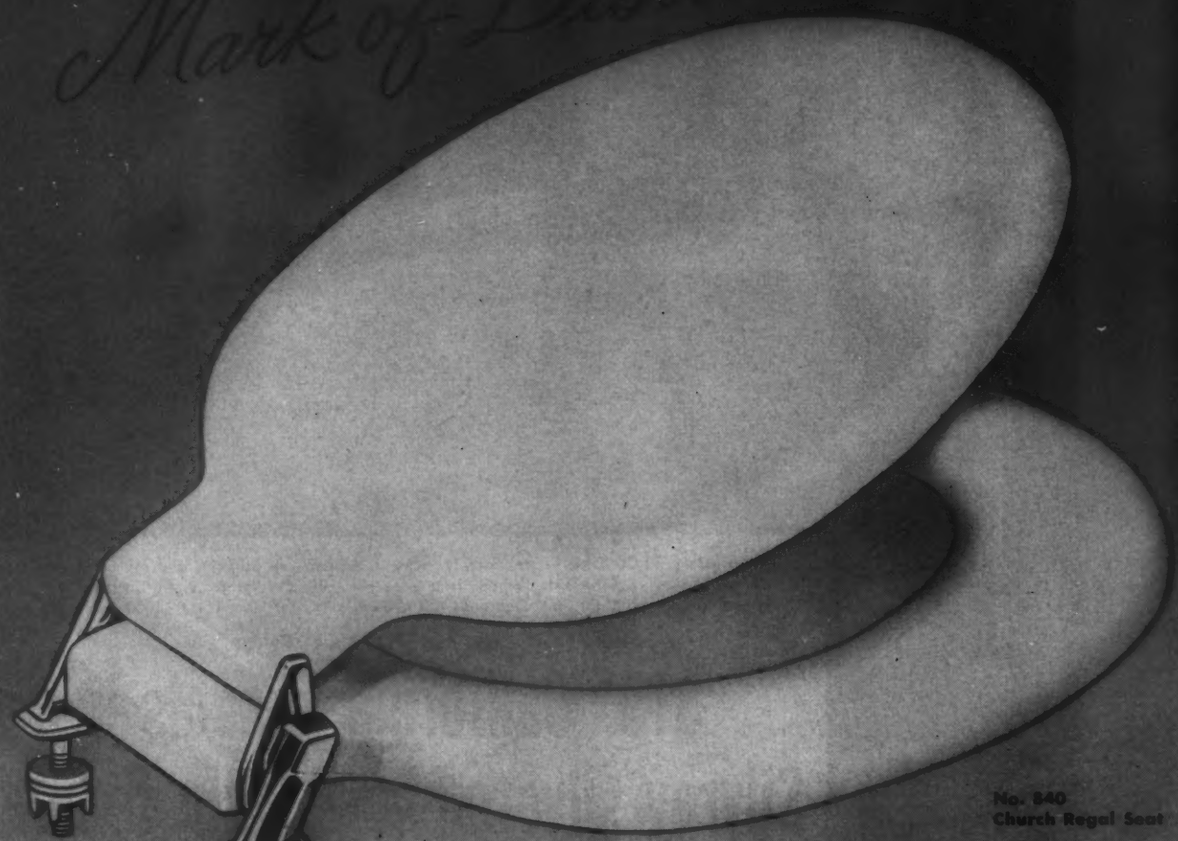

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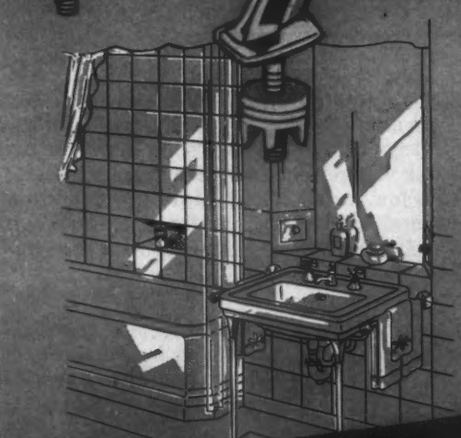
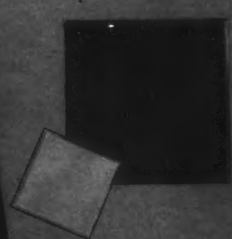
The true measure of taste and distinction in the finest of homes is often most evident in the less obvious things. A Church Seat in the bathroom is recognized instantly as a mark of distinction.

And its value is as immediately apparent as its beauty. Operation builders who choose Church Seats have told us they frequently elicit more favorable comment from prospective purchasers than any other single feature.



Church Seats
"THE BEST SEAT IN THE HOUSE"®



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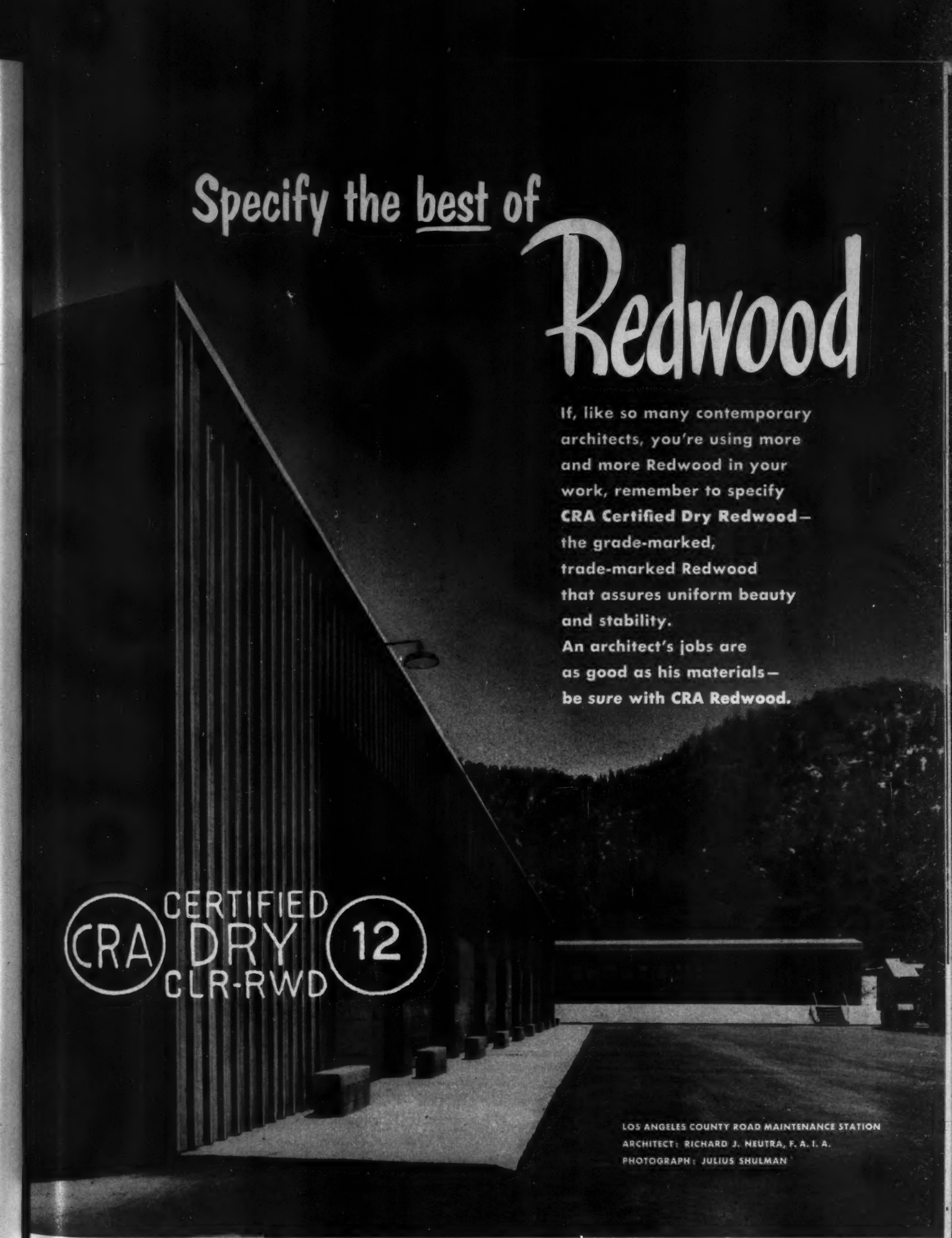

LOS ANGELES COUNTY ROAD MAINTENANCE STATION
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PHOTOGRAPH: JULIUS SHULMAN

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STANLEY
Olive Knuckle
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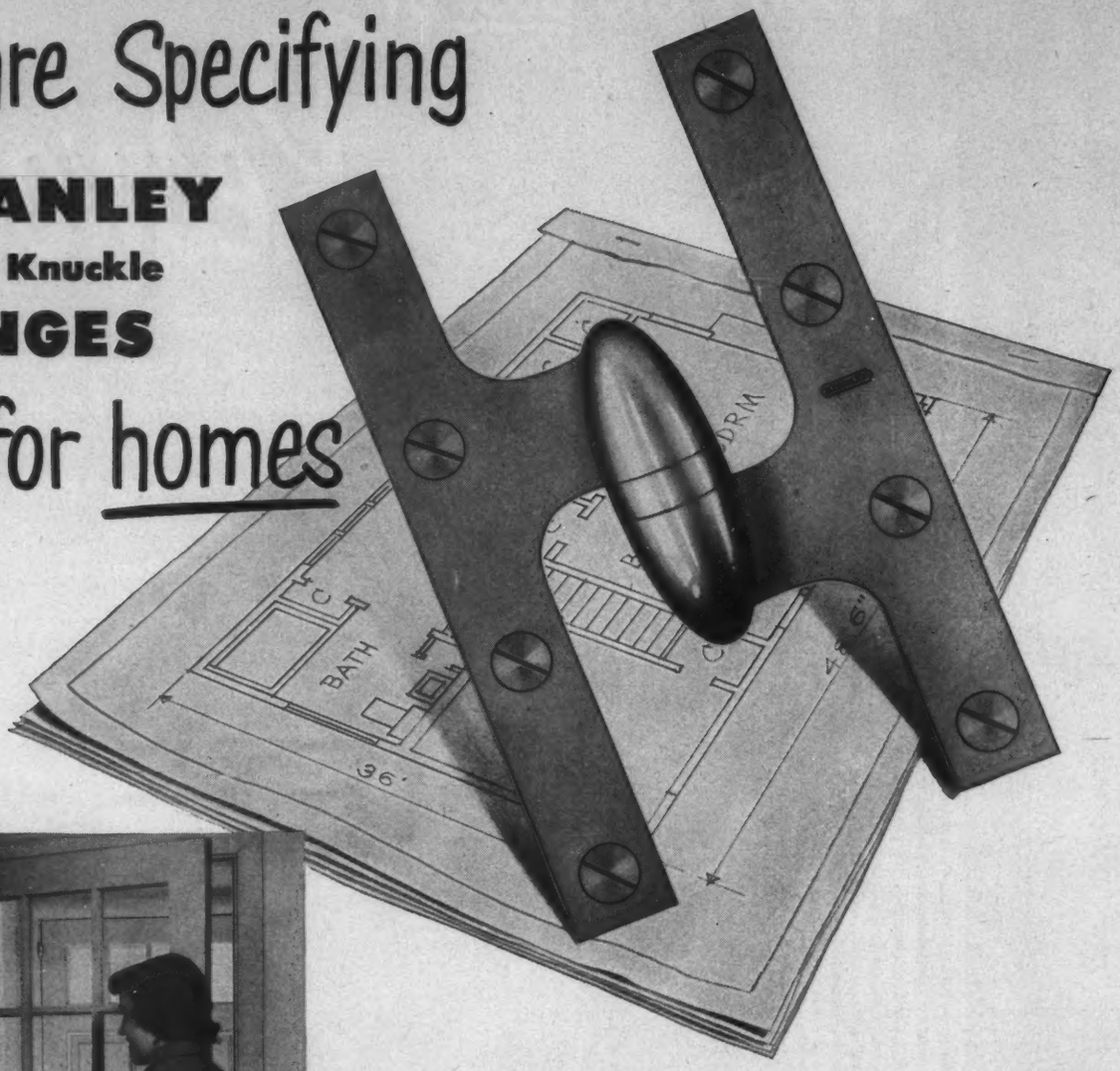

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For years, Stanley Olive Knuckle Hinges have been specified *not only* for the doors in office buildings, hotels and public buildings, but also for the finest homes throughout the country.

More and more architects are coming to realize that for finer residential work, Stanley Olive Knuckle Hinges provide a combination of beauty and dependability afforded by no other hinge.

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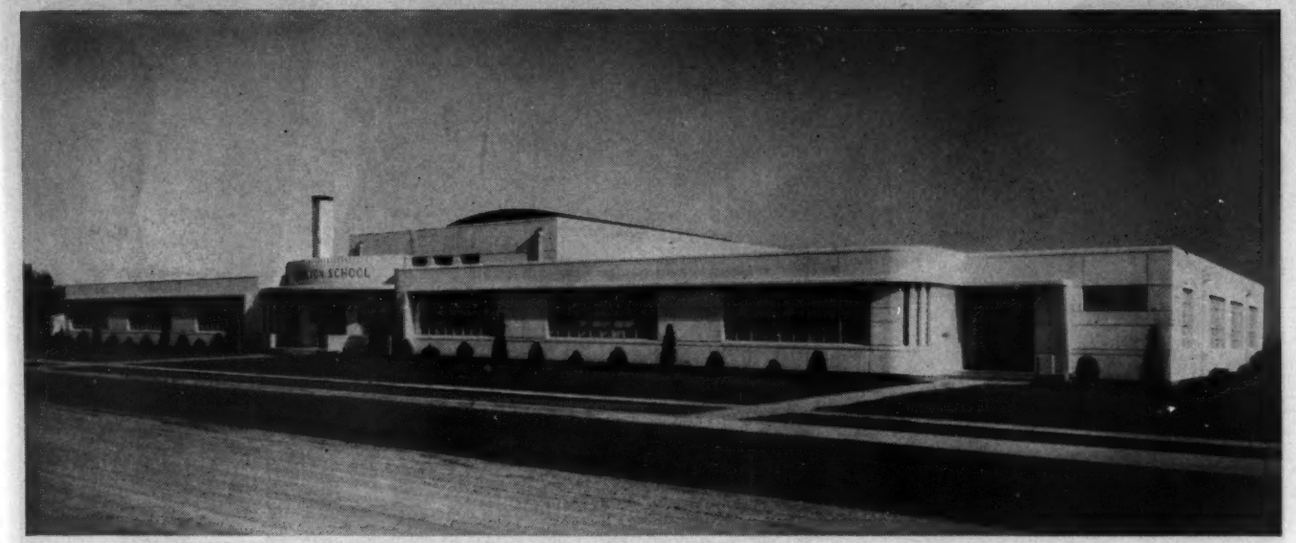

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ideal for schools of any size or type

The sharp increase in the birth rate during and since World War II now is reflected in a greatly expanded population of school age. Construction of buildings to house these students lags behind requirements.

In filling these needs architects can serve the interests of students, teachers, school boards and taxpayers best by designing in architectural concrete.

The outstanding characteristics of architectural concrete—rugged strength, maximum firesafety and unexcelled resistance to the elements—not only meet all structural requirements but also provide students and teachers with the utmost comfort and protection. Moreover, the enduring beauty which can be designed into architectural concrete buildings creates schools the city can be proud of for generations.

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Architectural concrete is a versatile structural material adaptable to single or multi-story schools of any size or style. Even ornamentation can be cast integrally—and economically—with structural parts.

For more information on designing architectural concrete schools write for free copy of "*Concrete in Schools*." Distributed only in the U. S. and Canada.

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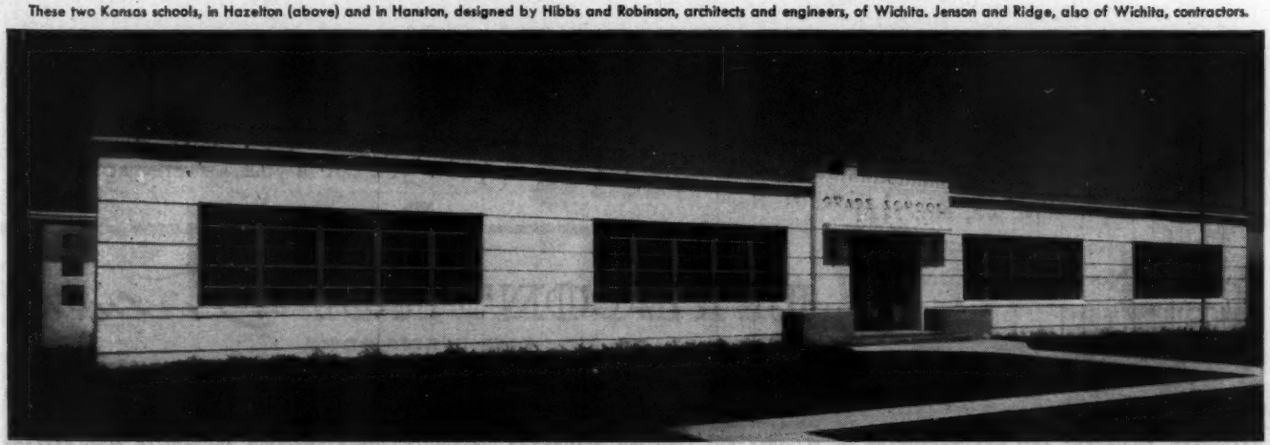
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

These two Kansas schools, in Hazelton (above) and in Hanston, designed by Hibbs and Robinson, architects and engineers, of Wichita. Jenson and Ridge, also of Wichita, contractors.



JOB: Tinder Krouss Tinder, Lexington, Kentucky
AREA: Customer fitting room for eye glasses.
ENGINEER: Lighting Dept., Kentucky Utilities Co., Lexington, Kentucky.
CONTRACTOR: Cutter Electric Company, Lexington, Kentucky.
WALLS: Dark mahogany panels.
CEILING: Matt Grey tile.
FLOOR: Brown and Grey tile.
FIXTURES: No. 5124 2-lamp recessed slimline fixtures, using Holophane No. 9016 low brightness lenses.
SPACING: 6'6" on centers.
INTENSITY: 51 footcandles average, after 10 weeks use.
(Figures courtesy Kentucky Utilities Company.)

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...and lighting by LITECONTROL is their choice

WHEN an "eyes front" optical company wanted to combine good light for good sight with attractive fixtures for good appearance . . . their vote went to LITECONTROL.

For this particular job, No. 5124 2-lamp recessed slimline fixtures were used with No. 9016 Holophane® low brightness lenses.

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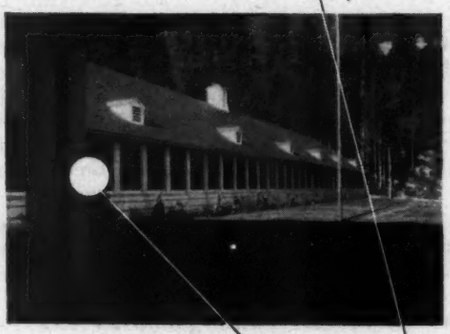

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T.O.K. Constr. Co.—*Builder*

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appearance
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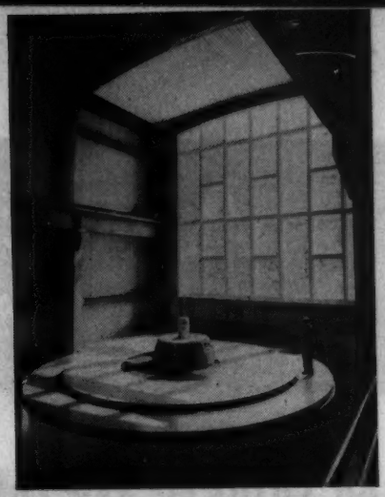
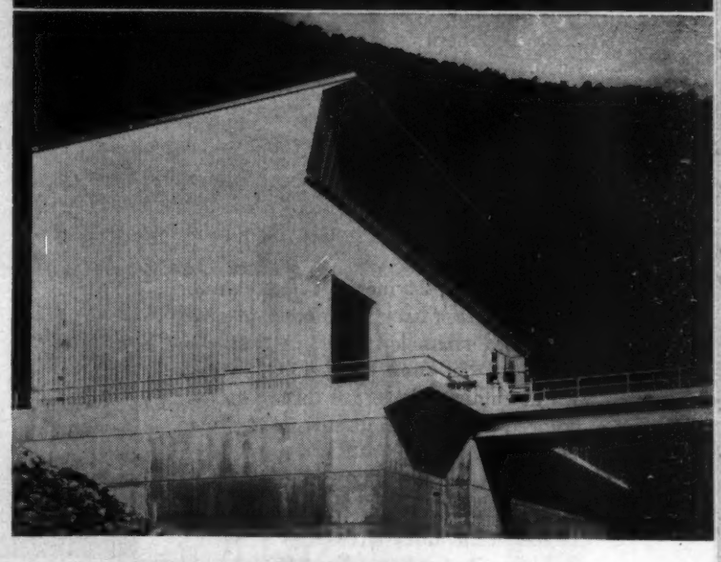


Two views of the South Holston Dam Powerhouse, Bristol, Tenn.
Designed by Tennessee Valley Authority, Design Department.
Built by T.V.A. Construction Dept.

ROBERTSON Q-PANELS set Design Standard for Modern Power Plants



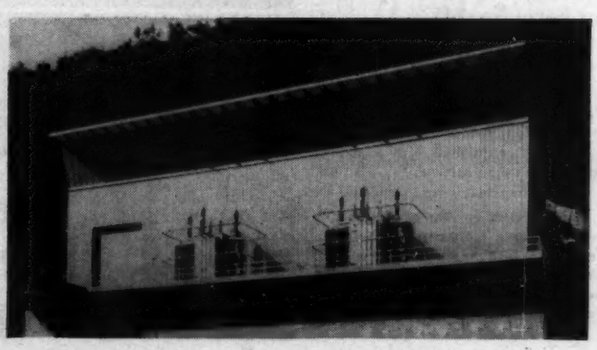
Good design originates in the designer's attitude, no matter what the material. But the simplicity of Q-Panel construction promotes logical straightforward design thought.

The T.V.A. Design Staff has used Q-Panels with such skill, and such understanding of simple lines, that the integrity and beauty of their Q-Panel buildings arouse admiration from laymen and professionals alike. The power stations shown use fluted aluminum outside and flat steel inside. The pictures are their own best testimony for the cleanness of line and pleasing proportions.

Q-Panels go up fast—50 sq. ft. in 9 minutes. A small crew quickly attaches the panels to the steel framework—much more quickly than little blocks can be piled up. Q-Panels are insulated metal sandwiches, only 3″ thick but with insulation value greater than a 12″ masonry wall. They are offered in a variety of maintenance-free exteriors, depending upon availability of materials at time of ordering.

The great number of Q-Panel electric power stations, from coast to coast and in many other countries, now under construction witness to the superiority of this wall material for power plants. Q-Panels fill the bill so well, they are rapidly becoming the typical traditional material.

WRITE FOR Q-PANEL CATALOG



Watagua Dam Powerhouse
Elizabethton, Tenn.
Designed by T.V.A. Design Dept.
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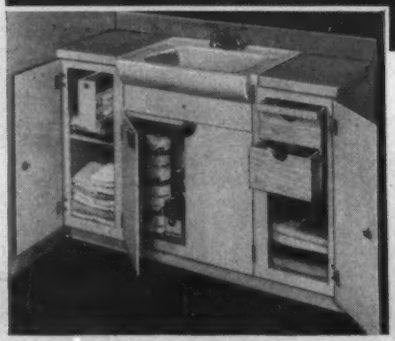
If you would like further information about the New Dresslyn Lavatory-Dressing Table, write for Form No. 247.



SMARTLY STYLED, STURDILY CONSTRUCTED. The cabinet of the New Dresslyn is made from strong, moisture-resistant wood. It is finished with enamel to give it a smooth, hard-to-mar surface.

AMPLE STORAGE SPACE. And in the upper right hand corner of the left storage compartment there's a special sliding medicine case which stretches all the way to the back of the cabinet and will accommodate bottles 6 inches tall. It comes with lock and key, so dangerous drugs and medicines can be kept safely locked away.

KNEEHOLE SPACE OR MORE STORAGE. The center section of the cabinet serves as a kneehole or, in the case of this straight front model, as additional storage space for items such as toilet tissue, soap, brushes.

SPECIAL-PURPOSE DRAWERS. The shallow top drawer in the right section is really a sliding tray with grooved individual compartments to hold small items. The middle drawer takes items up to 3½ inches high and the bottom one up to 5 inches high. Bottoms of the two lower drawers are protected by plastic coverings. And there's plenty of space below the drawers for towel storage.

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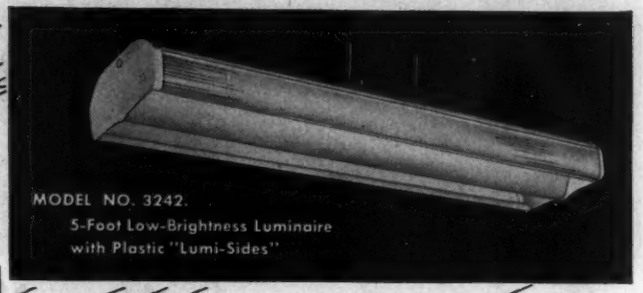

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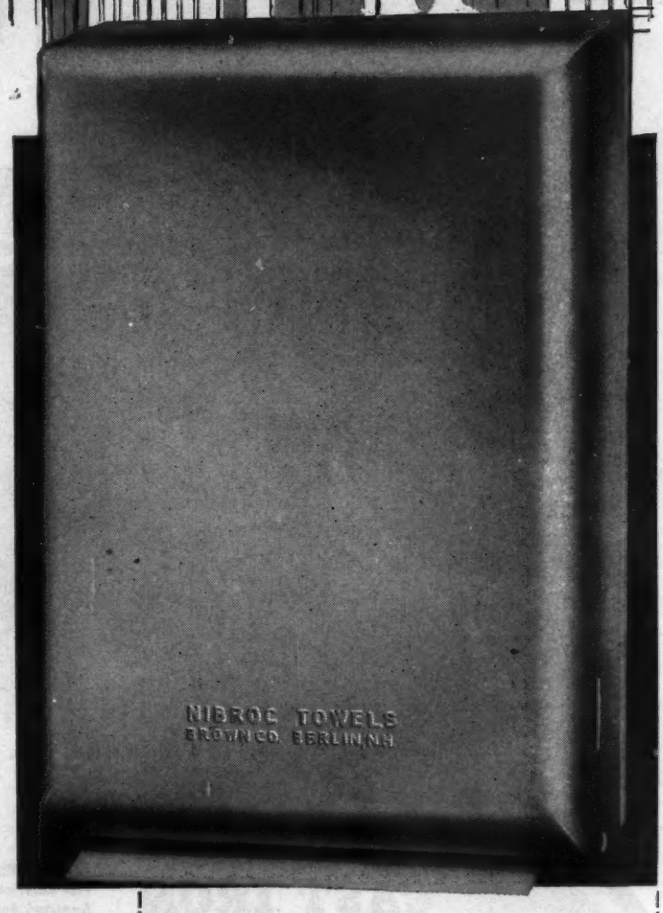

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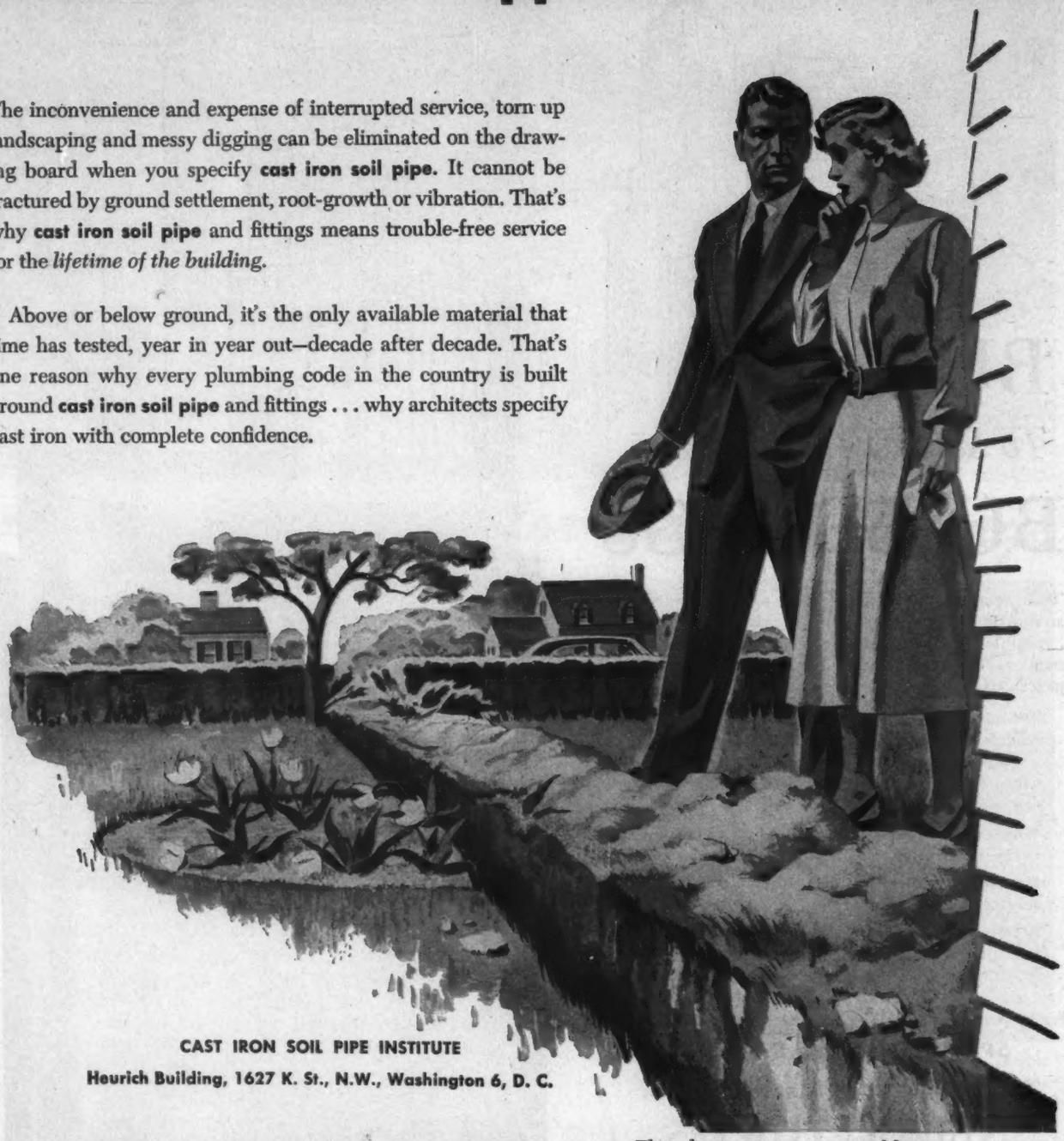

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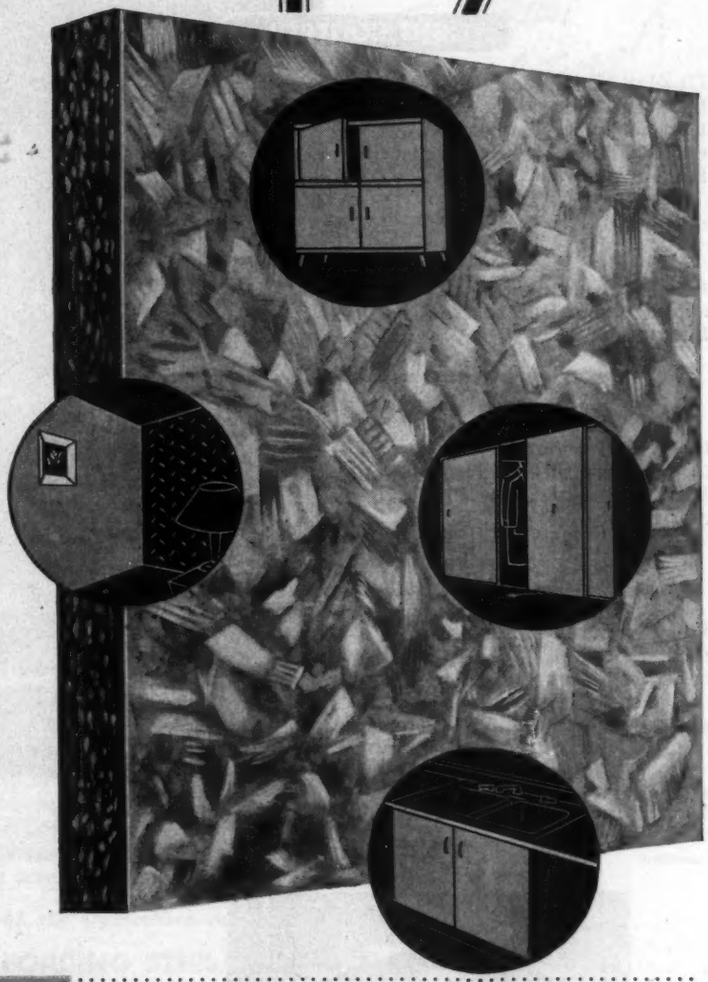

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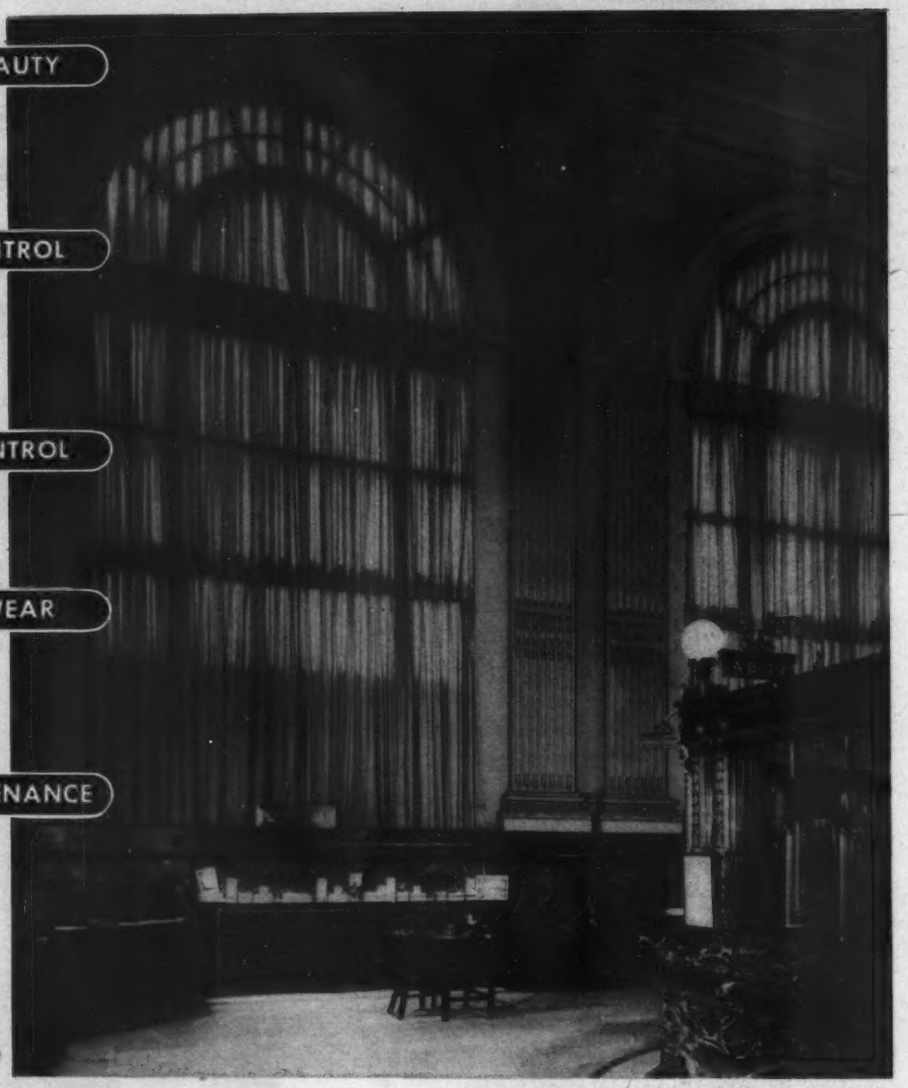

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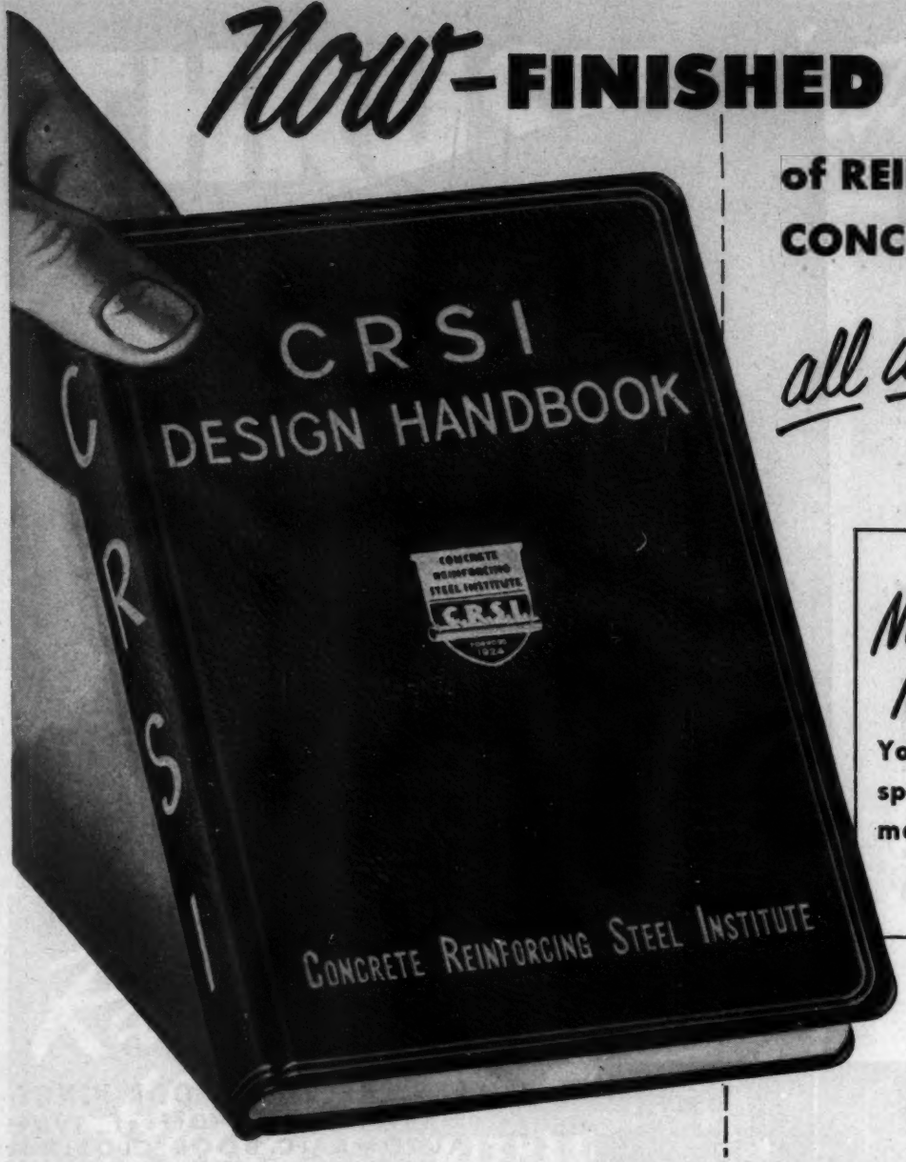

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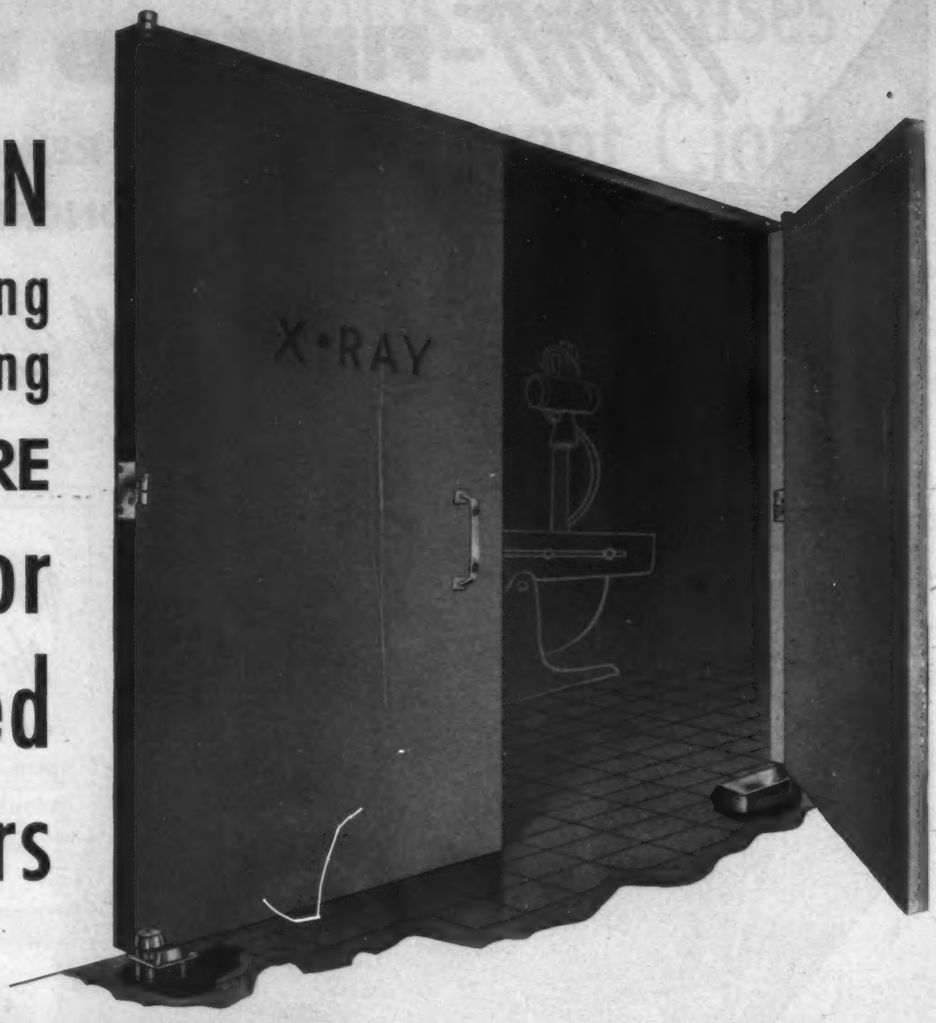

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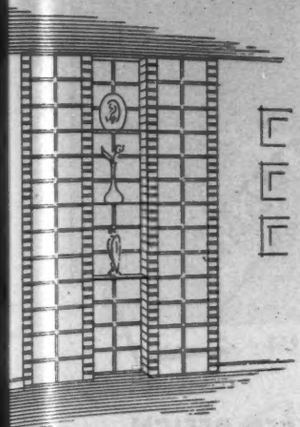
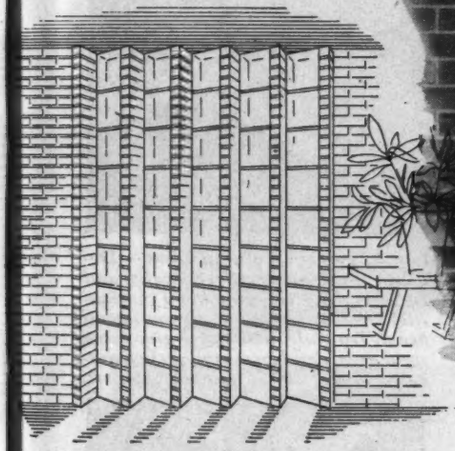
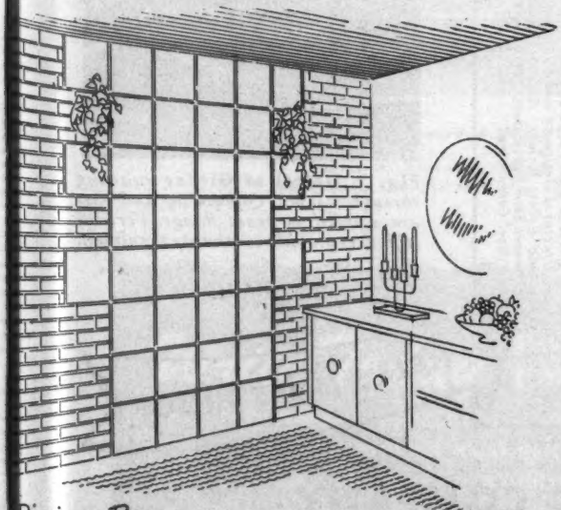


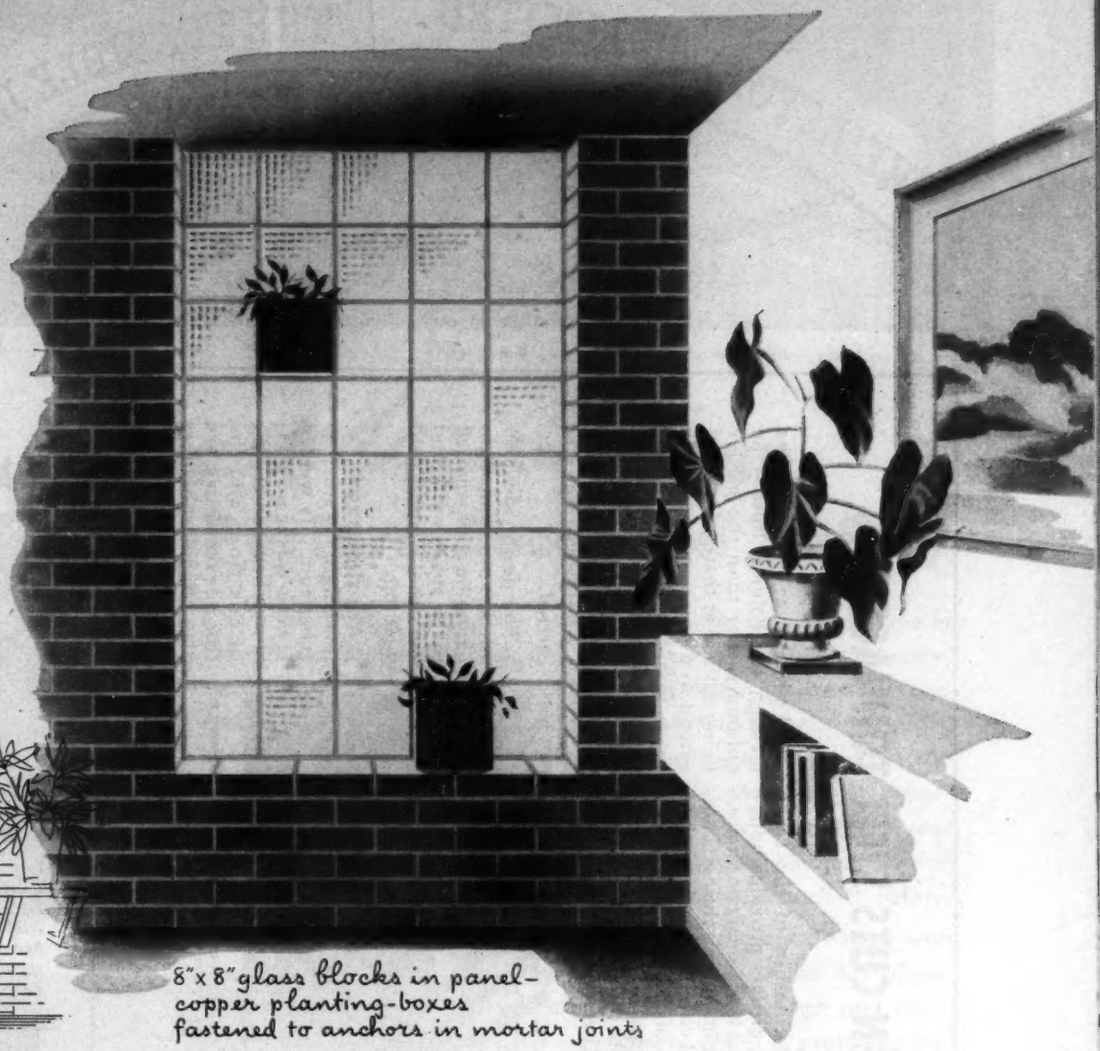
Vertical panels of 8"x8" glass block-staggered in plan with brick vertical "fins" between. 1/4" plate glass shelves set in brick joints.



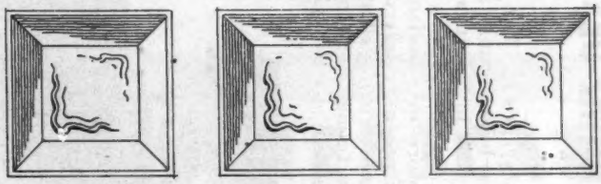
"Directing Light"-Interior Partition 12"x12" glass block set at an angle with single brick "fin" separators between each row.



Dining Room
12" glass blocks worked in with the inside of a face brick wall interior



8"x8" glass blocks in panel-copper planting-boxes fastened to anchors in mortar joints



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include light...include privacy...include INSULUX

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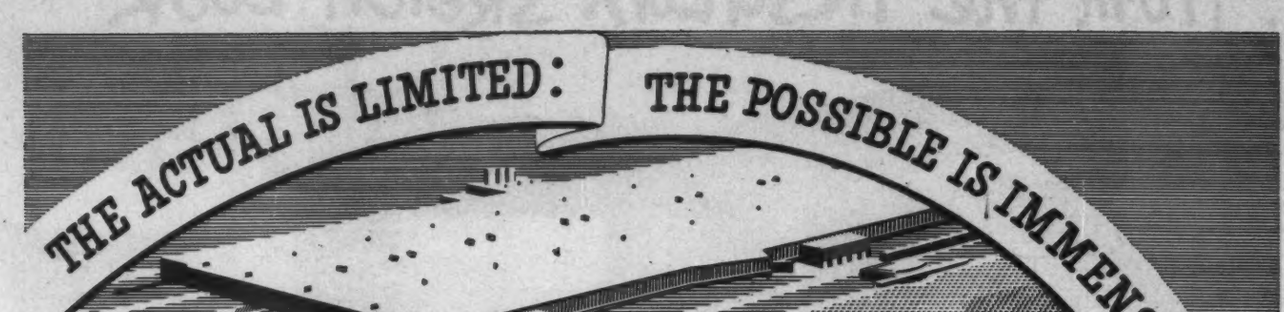

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WELDED FRAME DESIGN CUTS STEEL TONNAGE 15%

THROUGH welded structural design, it has been possible to save 15% on steel in the framework for J. W. Robinson's new department store in Los Angeles. The most recent department store in Southern California, this 1700 ton frame is almost entirely field welded.

The relationship of the columns and girders provides both vertical and horizontal continuity with a minimum of welding. The horizontal continuity reduces the deflection of the 32 ft. beam and girder spans to approximately 25% of what it would have been if they had been simply supported.

All girders are continuous through the column lines—the column rather than the girder being spliced at that point—and extend to a point approximately 6.5 ft. from the columns on both ends. This leaves a space in alternate spans of approximately 19 ft. between girder ends in which a suspended span is carried.

This design idea also allows any variations in gap to be compensated in the splice welds and so further simplify field welding.

Approximately 6" less height per story results from this welded frame design. Distances between ceiling of one floor and the floor level above are also considerably less than with other types of construction.

Fig. 4. Continuous Girder *passing over column top is spliced at point of minimum stress.*

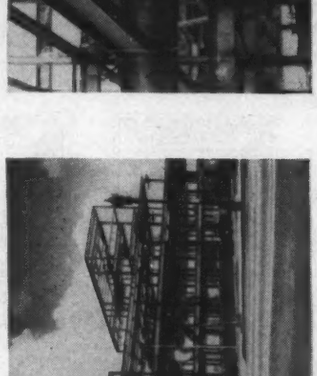

Fig. 3. Four Story Rigid Frame *for the J. W. Robinson department store in Los Angeles, California. Architects: Pereira and Luckman and Charles O. Matcham. Structural Designing and Detailing: Paul E. Jeffers and Robert Wilder, Associate Structural Engineers. Steel Fabricators: Bethlehem Pacific Coast Steel Corporation.*

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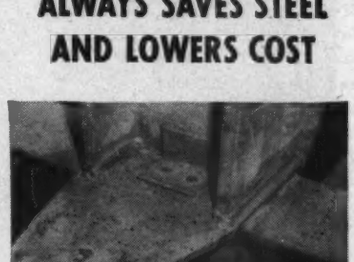

Fig. 1. Typical Column Joint — *Develops continuity both vertically and horizontally. Vertical column continuities are shop welded to the continuous beam. Top plate, with slot to give extra weld area, develops continuity in transverse beams across column supports.*

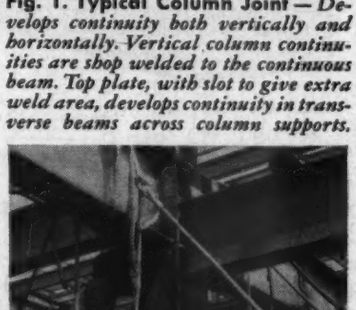

Fig. 2. Detail of Girder *running through column. Column top and base are welded to beam flange. Vertical stiffeners provide continuity to column.*

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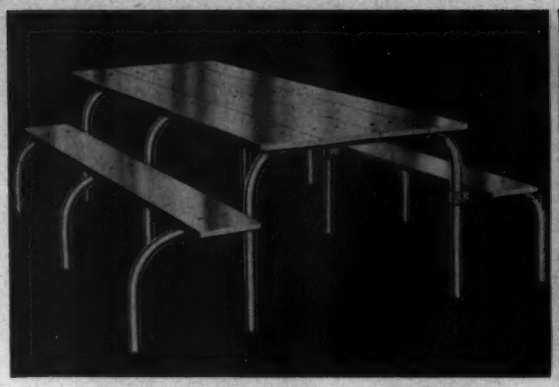

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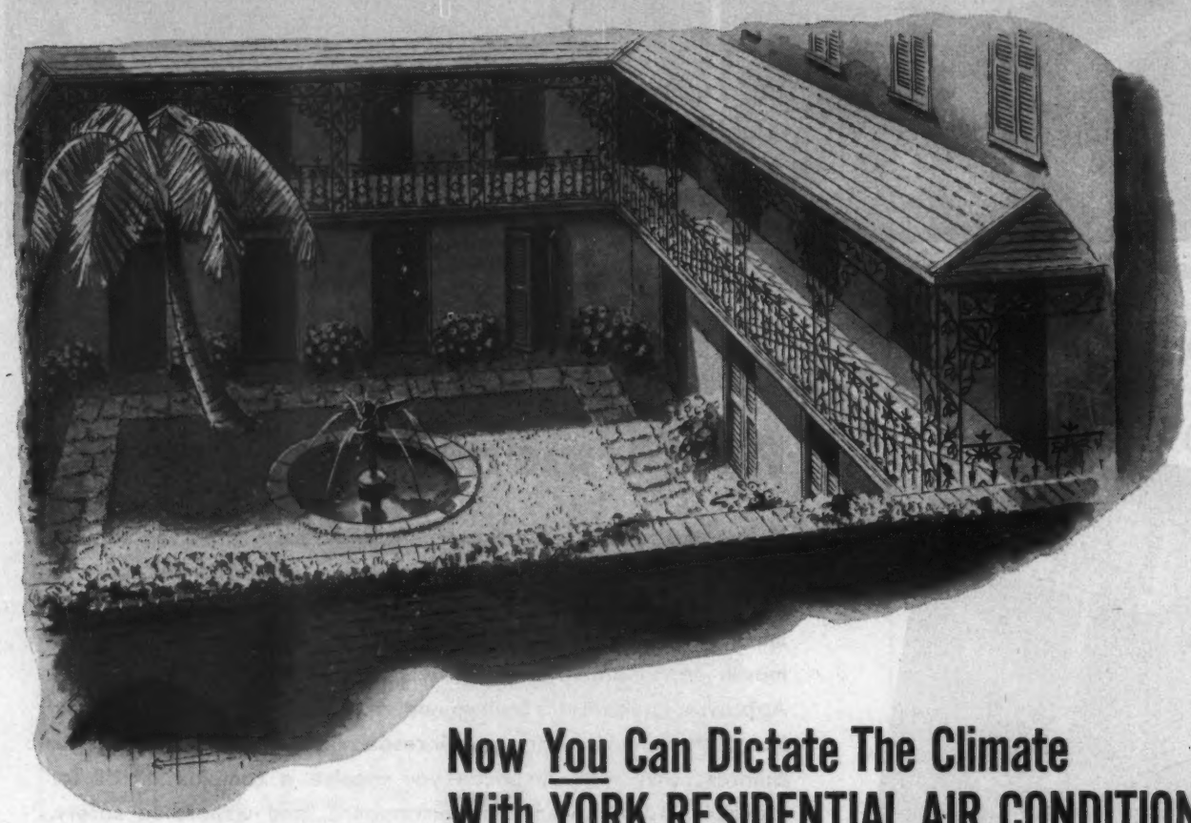

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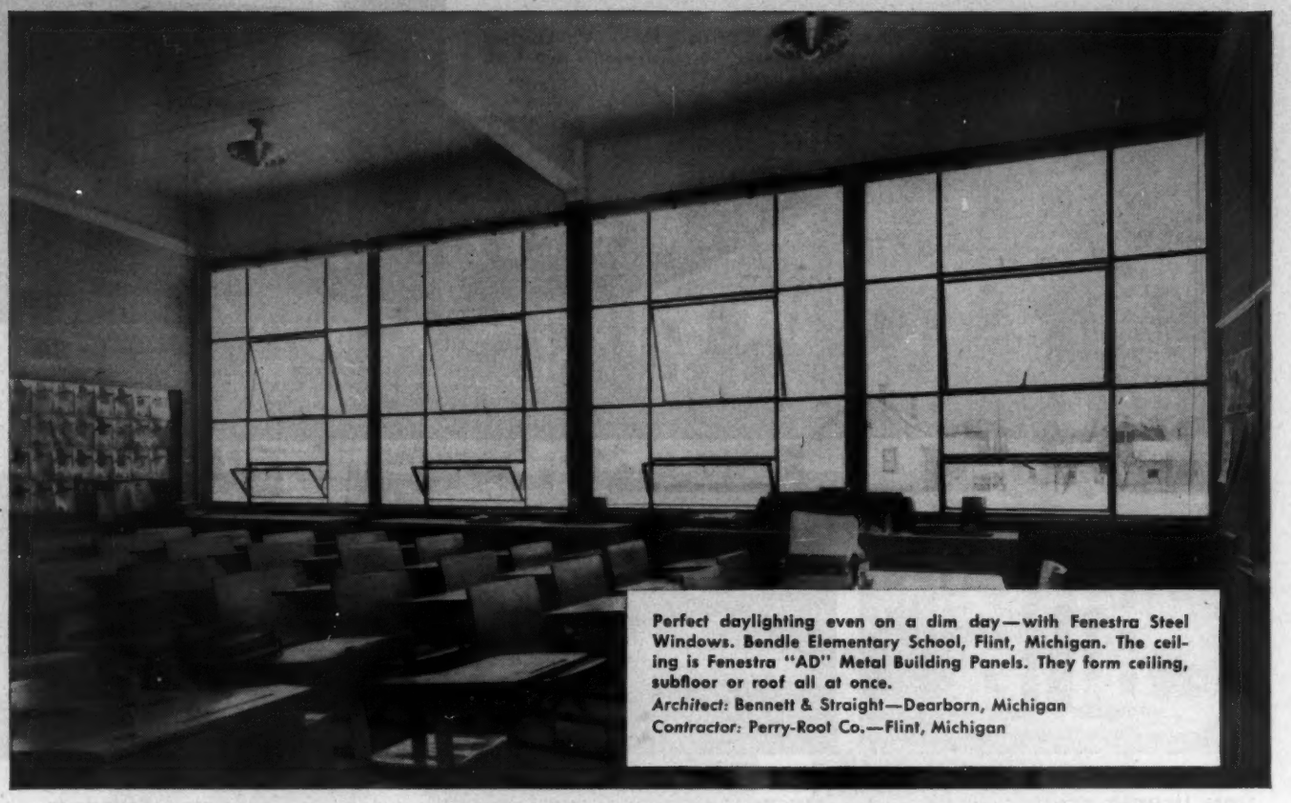

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Architect: Bennett & Straight—Dearborn, Michigan
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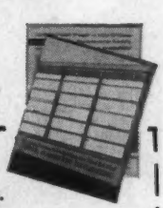

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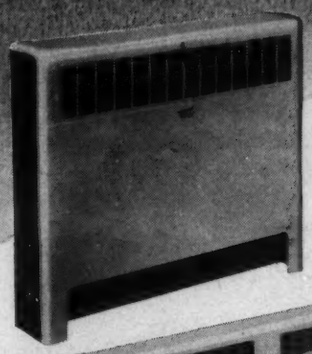

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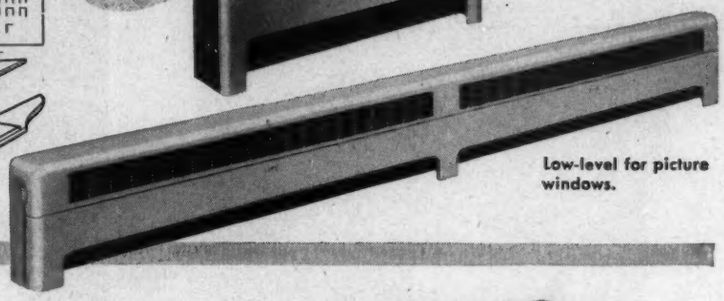

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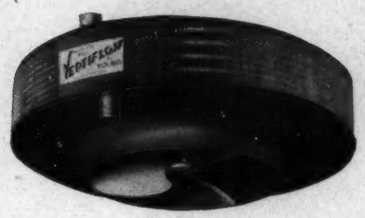
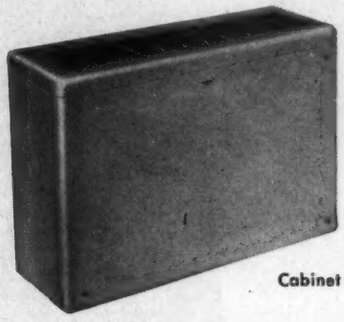


Vertiflow Type

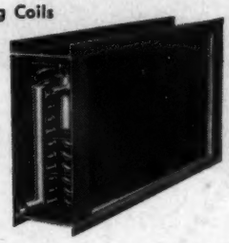


Cabinet Type

COILS

Heating Coils

Cooling Coils



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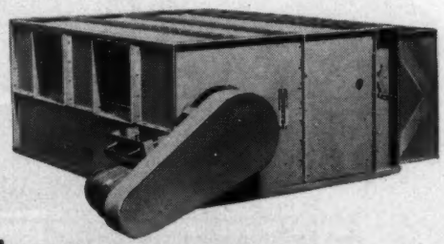
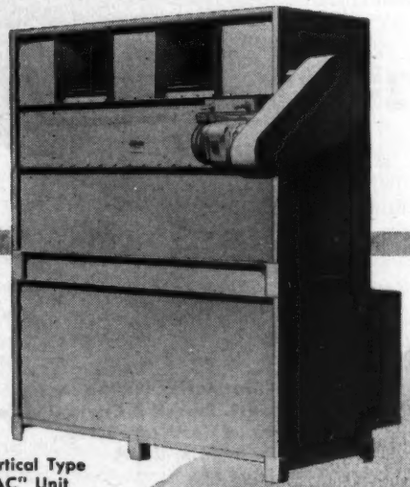


Horizontal Type "YAC" Unit



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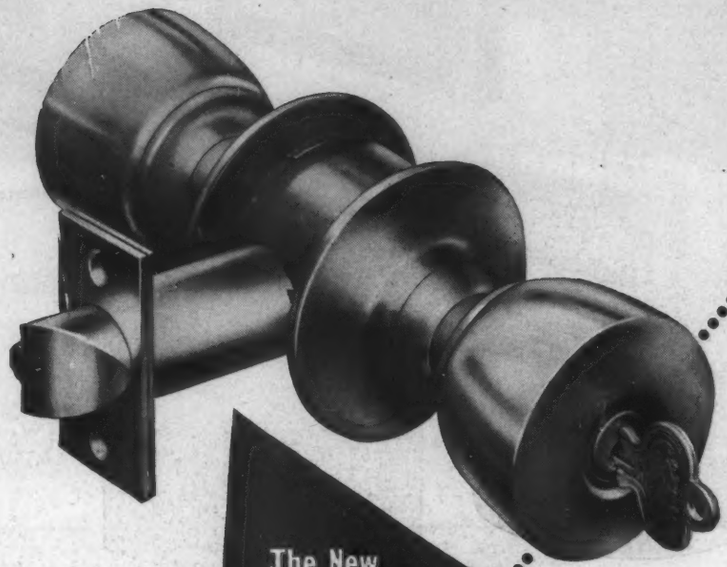

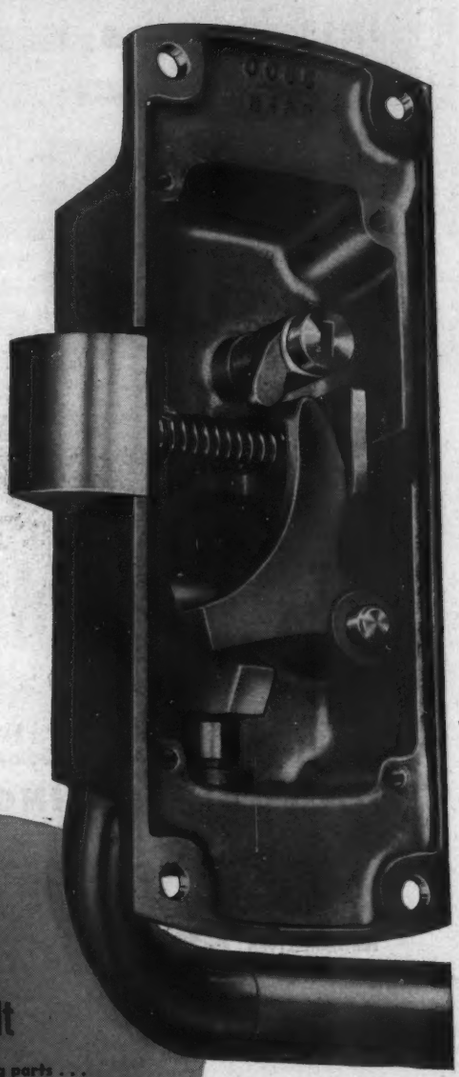

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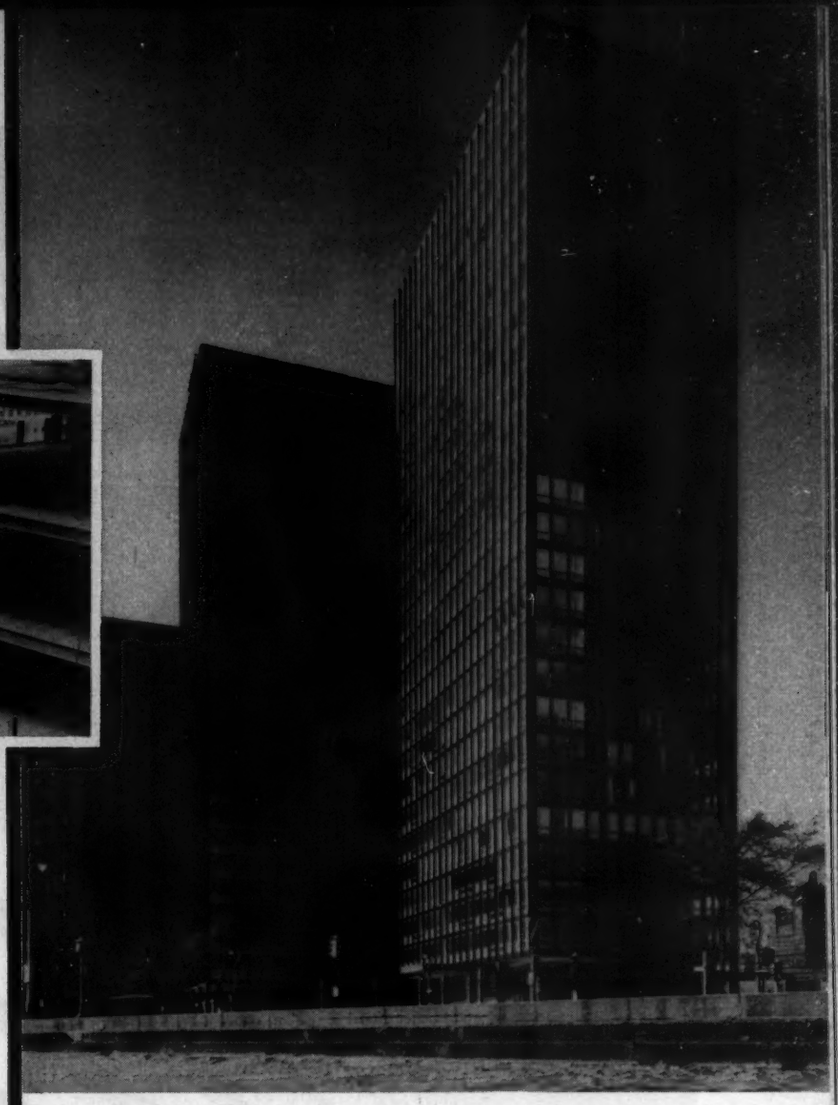

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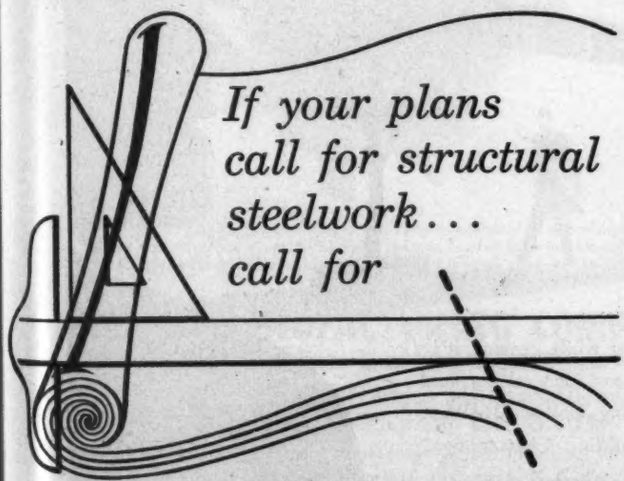

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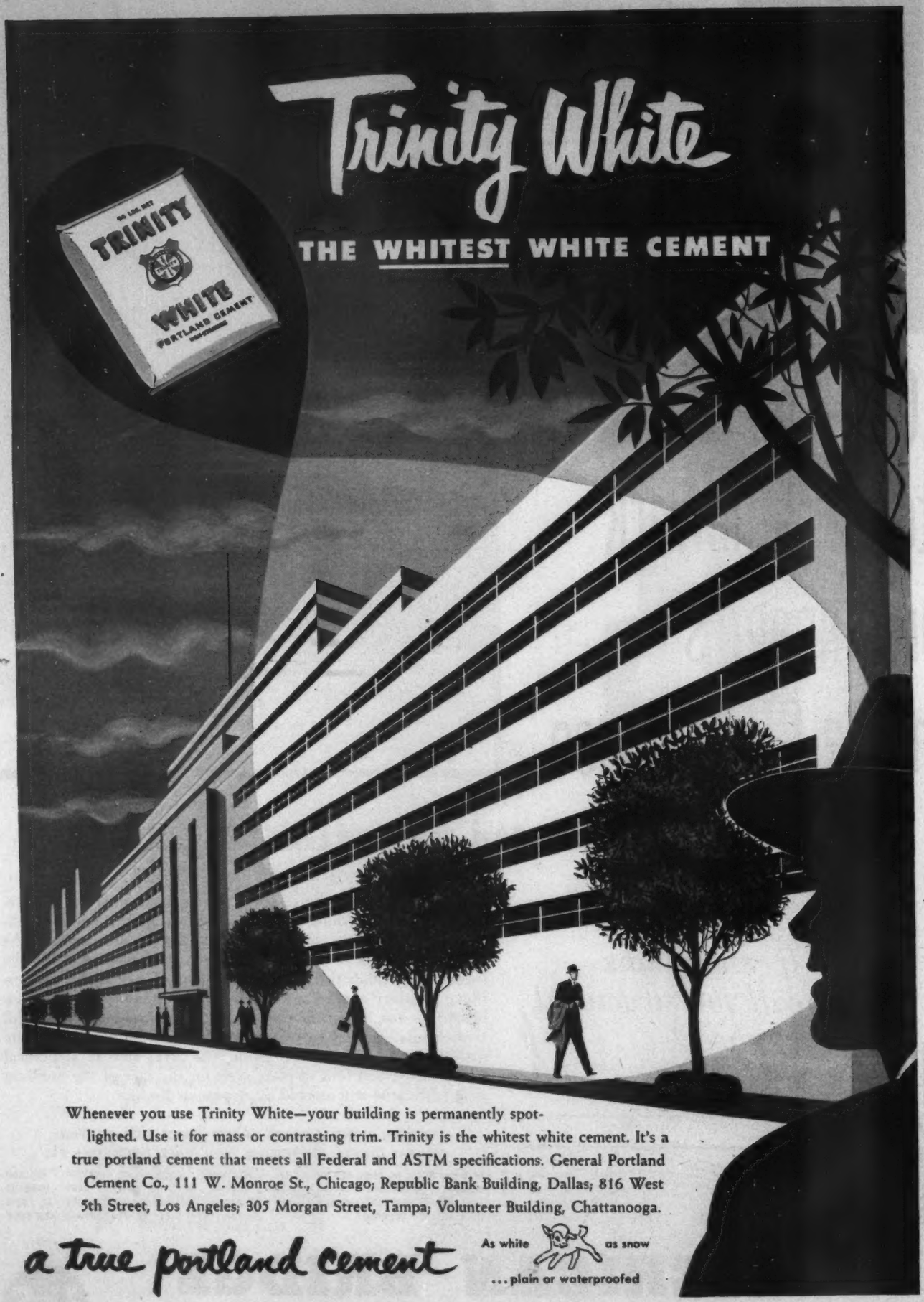

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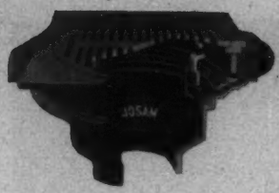

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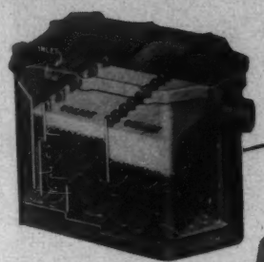

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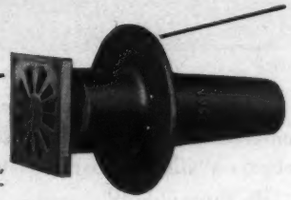

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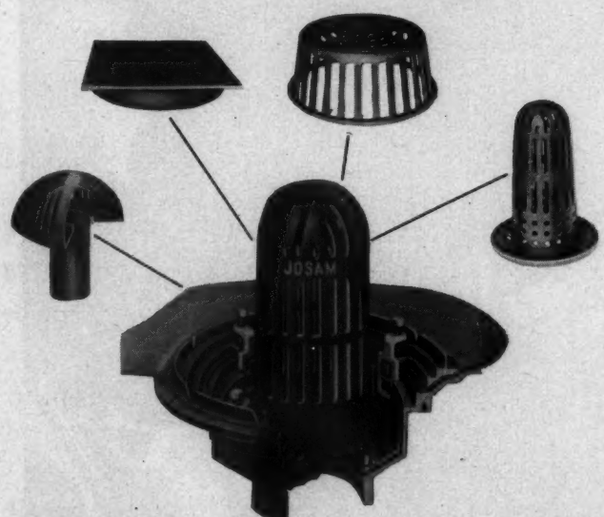

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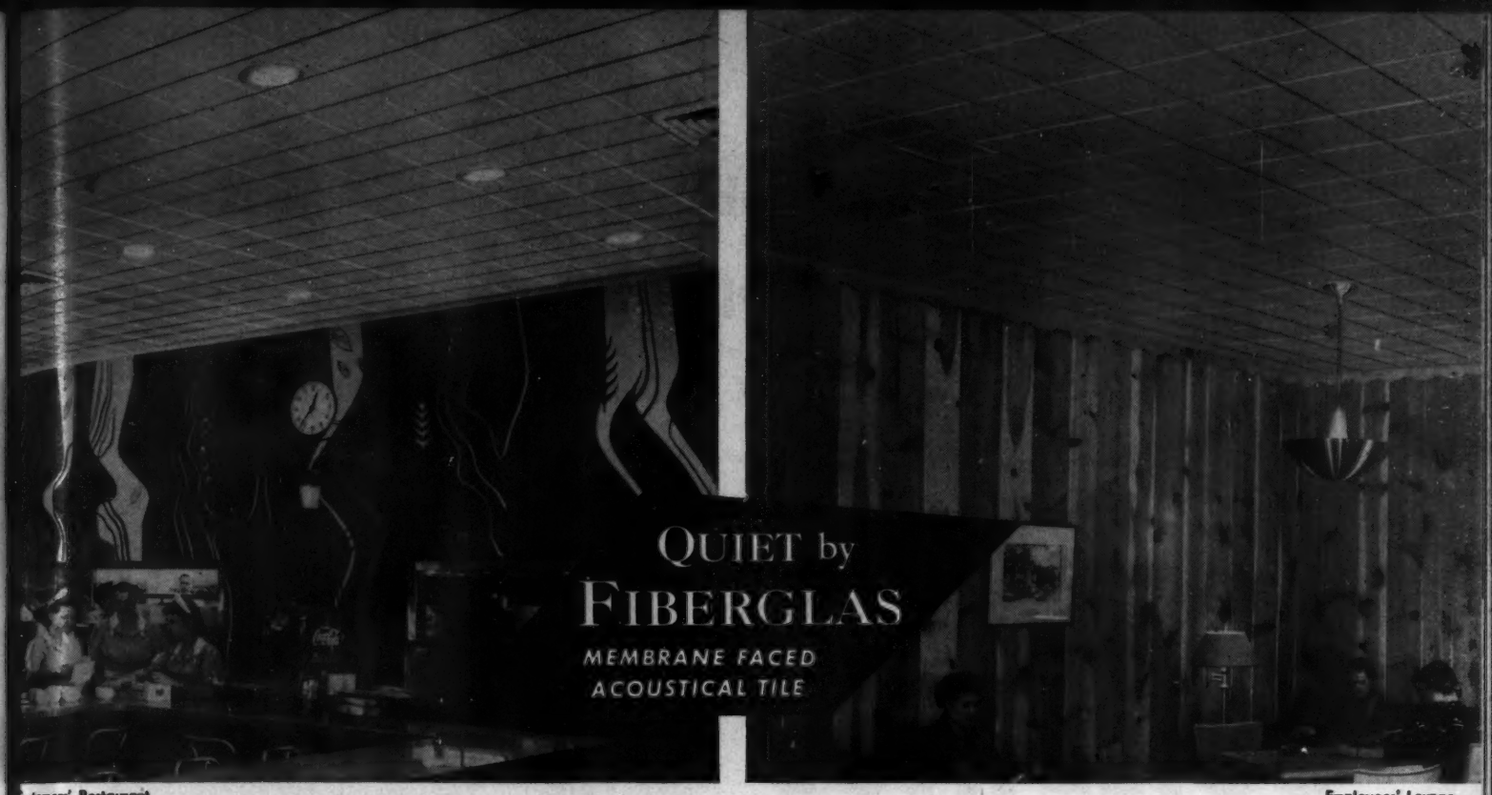

Customers' Restaurant

Employees' Lounge

BUILDING: Wurzburg Department Store, Grand Rapids, Michigan. ARCHITECT: Robinson, Campau & Crowe, Grand Rapids.
GENERAL CONTRACTOR: Fuller Construction Company. ACOUSTICAL CONTRACTOR: Leggette-Michaels Co.

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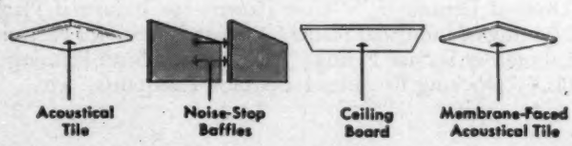

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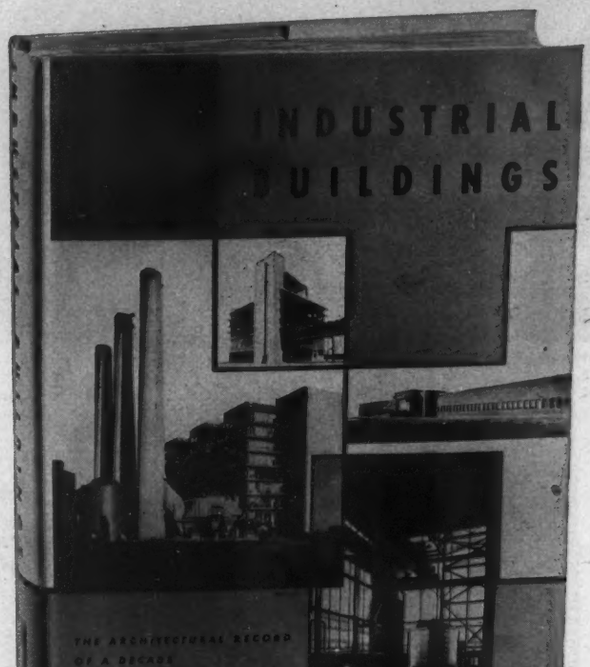

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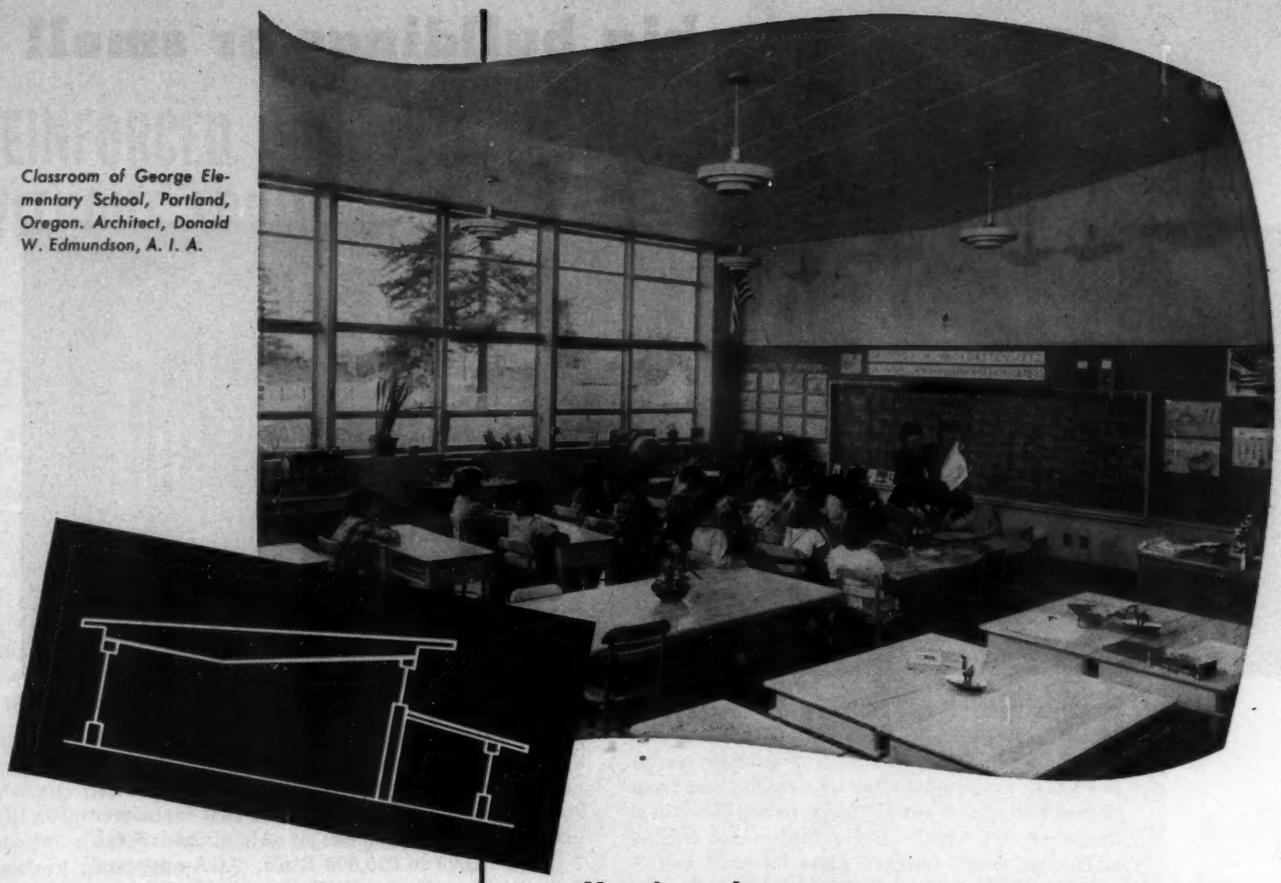

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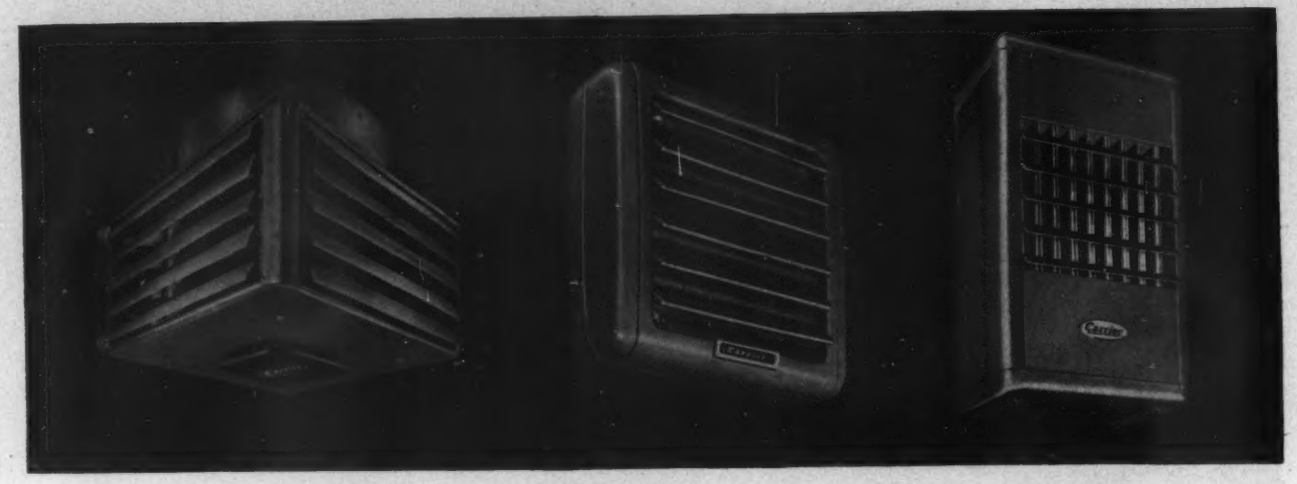

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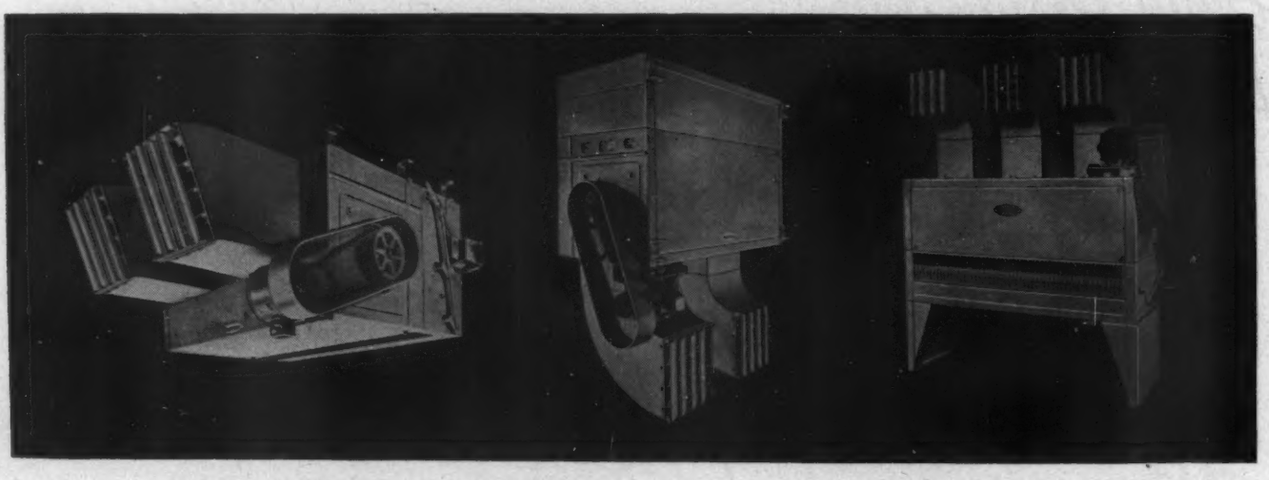

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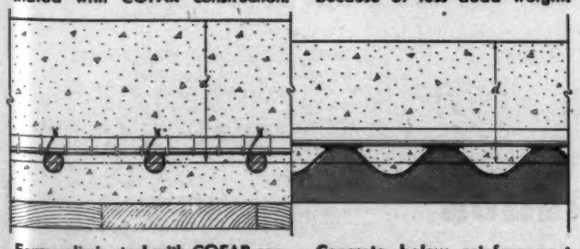

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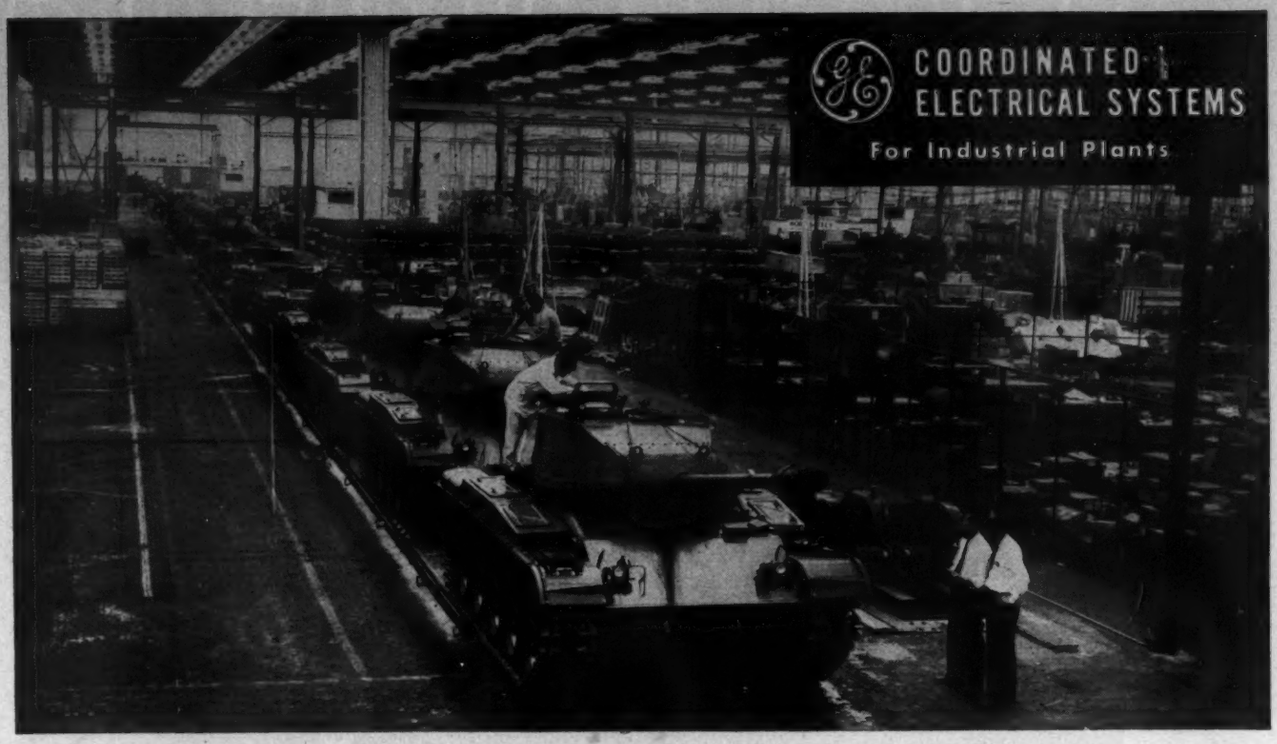

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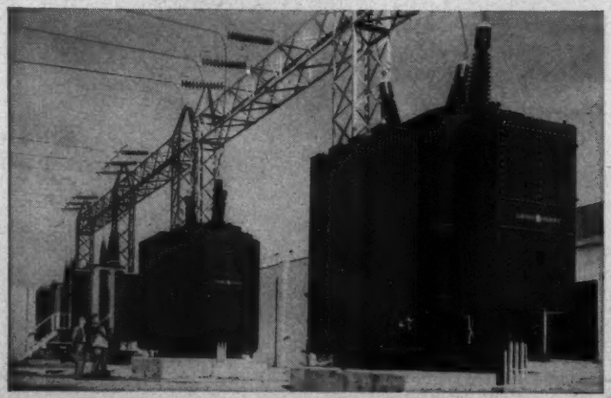

Two new 132-13.8-kv transformers, foreground, and breakers, disconnects, structural parts, form pre-engineered "package" integrated with existing G-E equipment to form plant's master substation.

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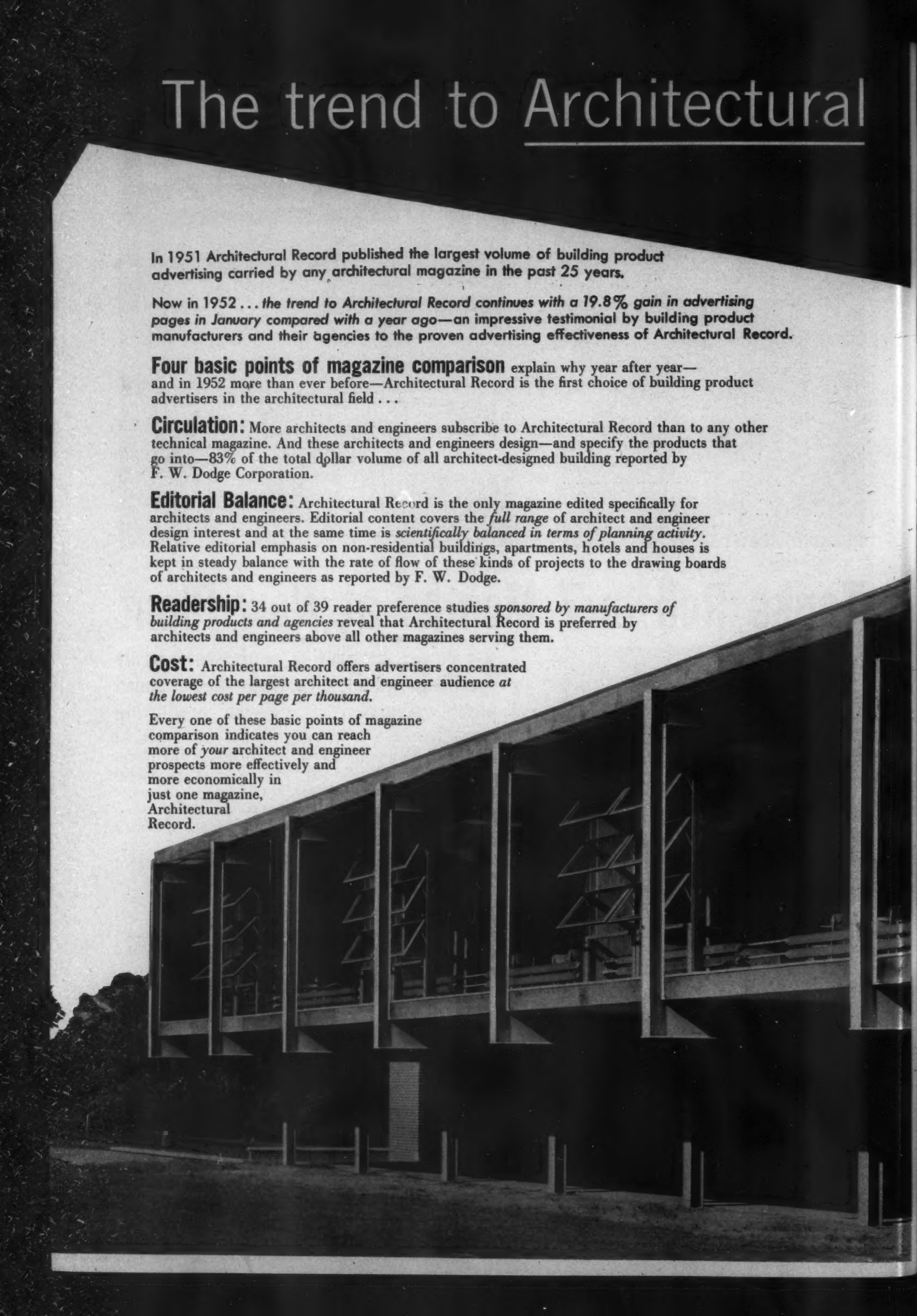
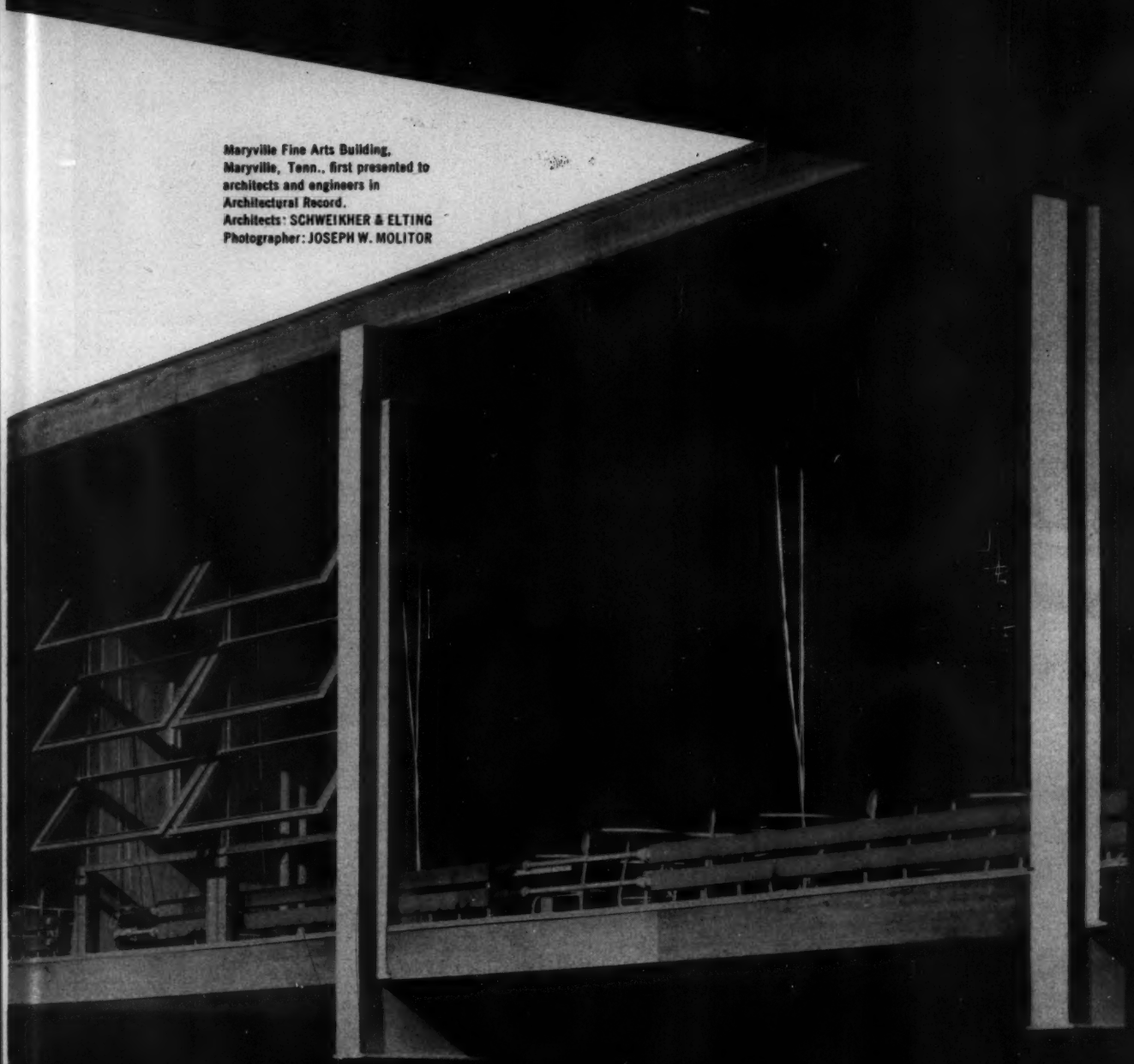


Record continues in 1952



Maryville Fine Arts Building, Maryville, Tenn., first presented to architects and engineers in Architectural Record.
Architects: SCHWEIKHER & ELTING
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Women's Dormitory, University of North Carolina

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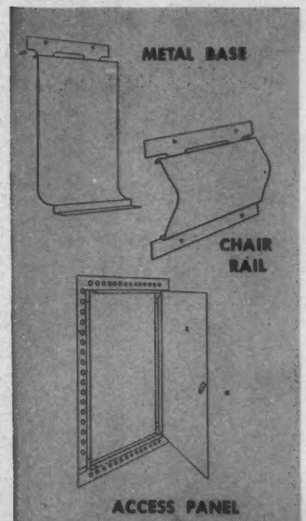

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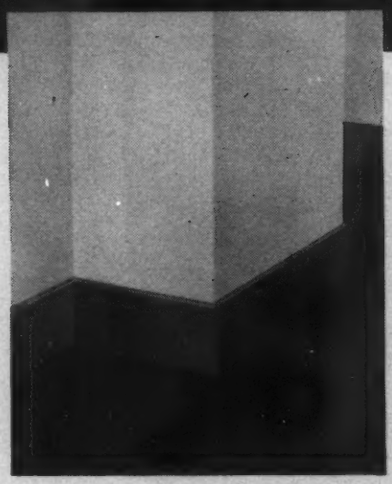

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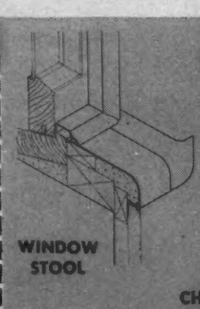

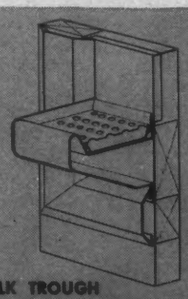

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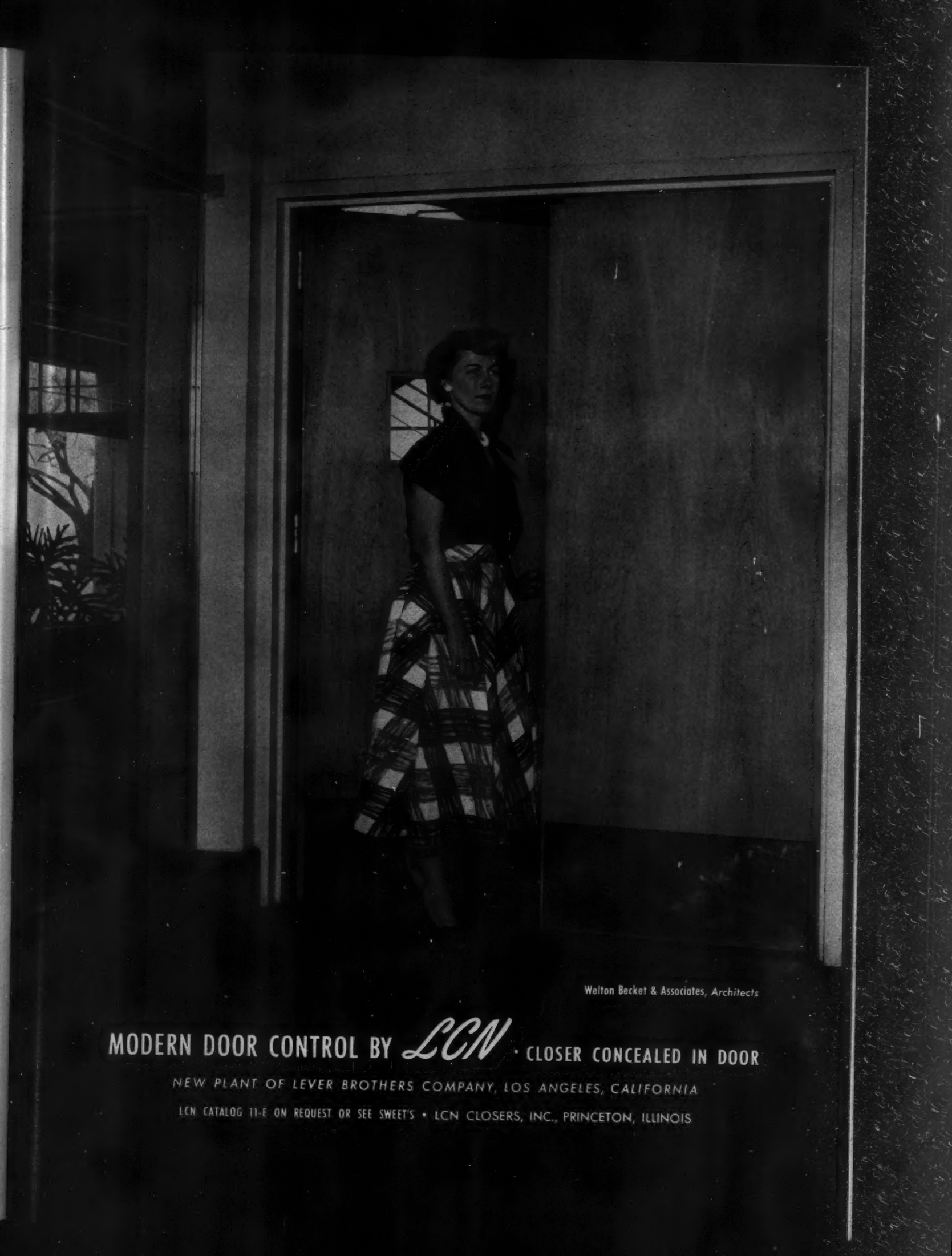

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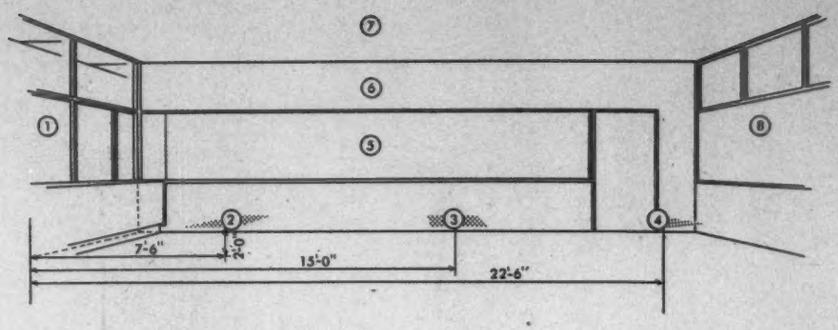
PRODUCTS

(*Continued from page 219*)

sunlight admitted at times. In an analysis (not shown) of Scheme B with venetian blinds drawn on a sunny day, light level is reasonably high, brightness contrasts reduced to a 13 to 1 ratio. From this point of view, perhaps the ideal would be to have only top light. However, this overlooks the psychological factor. Scheme A works well on sunny days, has low brightness ratio (assuming shades are drawn over vision strip), is less good on overcast days, producing less light at all room points than the same window with clear glass. It can be

(*Continued on page 310*)



Sketch shows location of points for which reflectivities are listed in table, right

CHART 2

BRIGHTNESS VALUES (MAINTAINED)

(Foot Lamberts)

Arrangement	Pts.	Overcast Sky	Clear Sky
Sky-domes Scheme B	1	1000	2000–8000 (1)
	2	30	67
	3	22	65
	4	48	144
	5	4.8	17
	6	15	50
	7	6.0	18
	8	16	70
Glass Block Scheme A	1	100–130 (1)	900–1400 (1)
	2	27	230
	3	11	129
	4	5.2	84
	5	1.2	16
	6	6.7	91
	7	7.8	110
	8	6.9	120
Clere-story Scheme C	1	1000	2000–8000 (1)
	2	37	84
	3	28	57
	4	18	35
	5	5.1	15
	6	17	45
	7	11	25
	8	8	23
Monitor Scheme E	1	1000	2000–8000
	2	31	70
	3	18	36
	4	23	52
	5	4.4	9
	6	13	28
	7	5.8	12
	8	14	55
Corridor Monitor Scheme D	1	1000	2000–8000
	2	30	77
	3	21	50
	4	10	20
	5	6	12
	6	18	35
	7	6.2	16
	8	2.5	11

(1) Depends upon position of person in room

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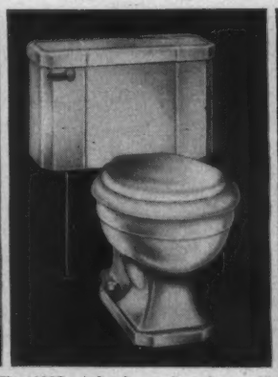

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PRODUCTS

(*Continued from page 308*)

argued that problems posed by overcast days can be solved with artificial light. Again the psychological factor enters in: TAC feels that the result is a "dead" room. Scheme A does have the advantage of needing fewer shades or blinds, and permits multi-story construction. Scheme C gives good light, but the level drops on inside wall. Scheme D is definitely inferior. Both C and D require some shading as noted for B.

TAC feels the total picture seems to point to Scheme B as giving best, most flexible light for least cost.

For those interested in further information on Skydomes, the manufacturer offers an engineering planning service, in which recommendations, working drawings and calculations are prepared from submitted blueprints and illumination requirements. Wasco Flashing Co., 83 Fawcett St., Cambridge 38, Mass.

FACTS FOR ARCHITECTS

ABOUT "CONSTRUCTION BY ADHESION"*

HERE ARE NEW METHODS WHICH MEAN SUBSTANTIAL SAVINGS IN LABOR AND MATERIALS FOR MODERN CONSTRUCTION in both *NEW* building and *MODERNIZATION*

MIRACLE ADHESIVES CORP.
214 E. 53 St. • New York 22, N. Y.
"CONSTRUCTION BY ADHESION"
*Reg. U.S. Pat. Off.

WRITE TODAY FOR RECOMMENDED SPECIFICATIONS ON
1. Setting Genuine Clay Tile. 2. Insulating Ducts. 3. Insulating walls and ceilings either by Direct Adhesion or in conjunction with Surface Anchors. 4. Installing floor runners; bonding furring strips.

1.

Today it is normal procedure to install clay tile in hotel bathrooms without losing a night's revenue. This illustration shows one of the 144 rooms in the White Plaza Hotel, Dallas, Texas, in which MIRACLE ADHESIVE was used to do the job from the time the guest left his room in the morning until he returned that afternoon.

2.

Plaster applied over wire and cork which has been attached to aluminum ducts using MIRACLE ADHESIVE and MIRACLE SPINDLE ANCHORS at John Hancock Mutual Life Insurance Co. Building, Boston, Mass. ARCHITECT, Cram and Ferguson. BUILDER, Turner Construction Co.

3.

FIBERGLAS insulation, Type PF-613, 2" thick — bonded to concrete ceiling using MIRACLE PRONGED ANCHORS at Radio City Studio 6B, New York, N. Y. CONTRACTOR, William J. Scully, Inc., New York, N. Y.

4.

WOOD RUNNERS installed on concrete floors with MIRACLE ADHESIVE and MIRACLE ANCHOR NAILS to support 2" solid partitions. Washington Circle Apartments, Washington, D.C. GENERAL CONTRACTOR, Charles H. Tompkins Company.

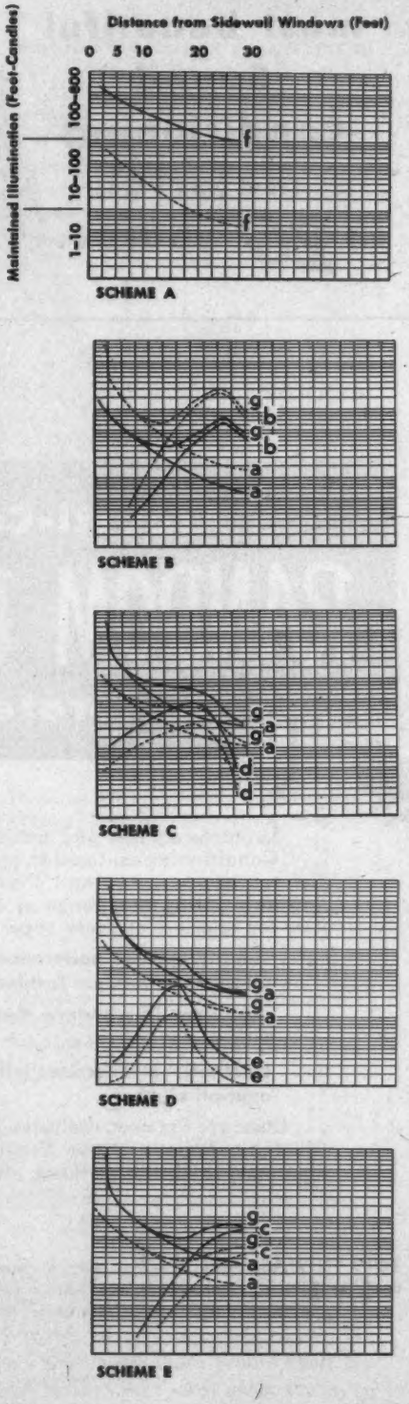
VISIT MIRACLE EXHIBIT AT ARCHITECTS SAMPLES CORP. 101 PARK AVE., NEW YORK CITY

CHART 3

KEY

a-Sidewall Windows
b-Skydome
c-Monitor
d-Clerestory
e-Corridor Monitor
f-Glass Block
g-Total

Solid line indicates clear sky
Dotted line indicates overcast sky

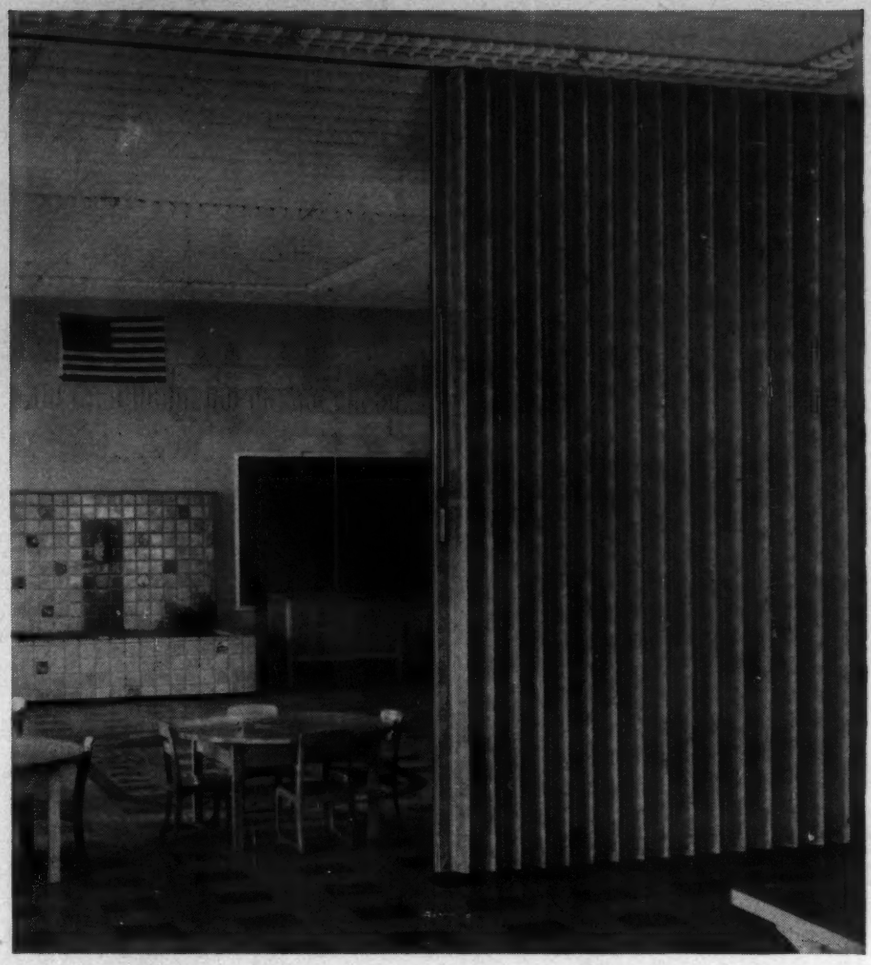


(*Products continued on page 312*)

How many classrooms are enough?

That's a mighty tough question to answer today. Many schools, however, solve this lack-of-space problem by using "Modernfold" doors as "movable walls" to make their present rooms do double duty.

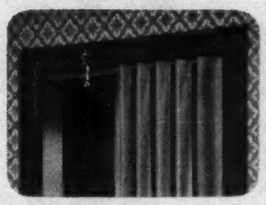
For example, note how simple it is here to make two rooms out of one. You just close the large "Modernfold" door. Then . . . when group activities demand a large single room . . . you just fold the "Modernfold" door back on itself, out of the way.



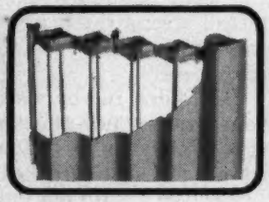
Your ideas come to life . . . for life with "MODERNFOLD" doors

Whether you need *floor plan flexibility* . . . or want to use the space that swinging doors waste . . . specify "Modernfold" —the original folding door. No other folding door *anywhere* equals "Modernfold" doors for quality of design . . . for quality and strength of materials . . . for *completeness of line.*

Regardless of how your room division or door closure problems may vary . . . you get exactly what you want when you specify "Modernfold" doors —your guarantee against client complaint. For on their performance record alone, "Modernfold" doors look better, operate easier, last longer.



Better Looking
Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



Easier Operating
Balanced pantograph hinge construction at both top and bottom: trolleys attached at hinge instructions. No sidewise twist or pull possible.

Longer Lasting
More steel hinges both top and bottom; more steel in each hinge; two vertical steel rods welded to each hinge assembly.

YOU CAN'T GET MORE IN A FOLDING DOOR

Sold and Serviced Nationally

NEW CASTLE PRODUCTS, NEW CASTLE, INDIANA

In Canada:
Modernfold Doors, 1315 Greene Avenue, Montreal

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New Castle Products
Box No. 812
New Castle, Indiana

Gentlemen:
Please send me full details on "Modernfold" doors.

Name.....

Address.....

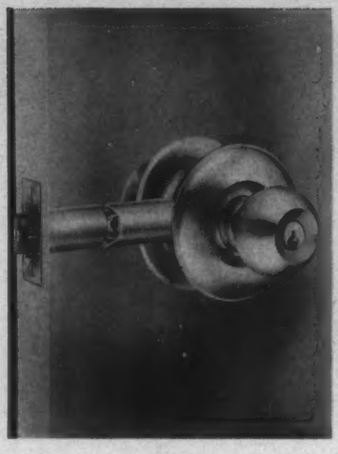
City.....County.....State.....

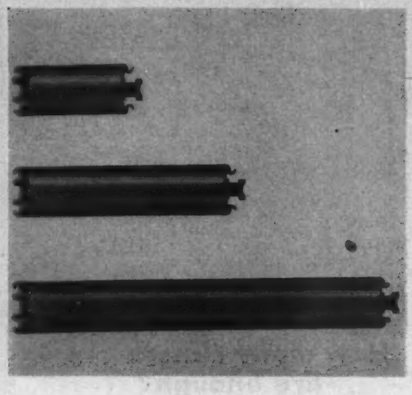
PRODUCTS

(*Continued from page 310*)

Lock Development Makes Door Design More Flexible

Greater freedom than usual in door design is possible with new developments of the *Schlage Long Backset Lock*. Utilizing concealed extension links which serve as connecting ties between lock and latch units, the mechanism permits placement of the lock at 5, 7 or 10 in. from the door edge, or in center-of-door





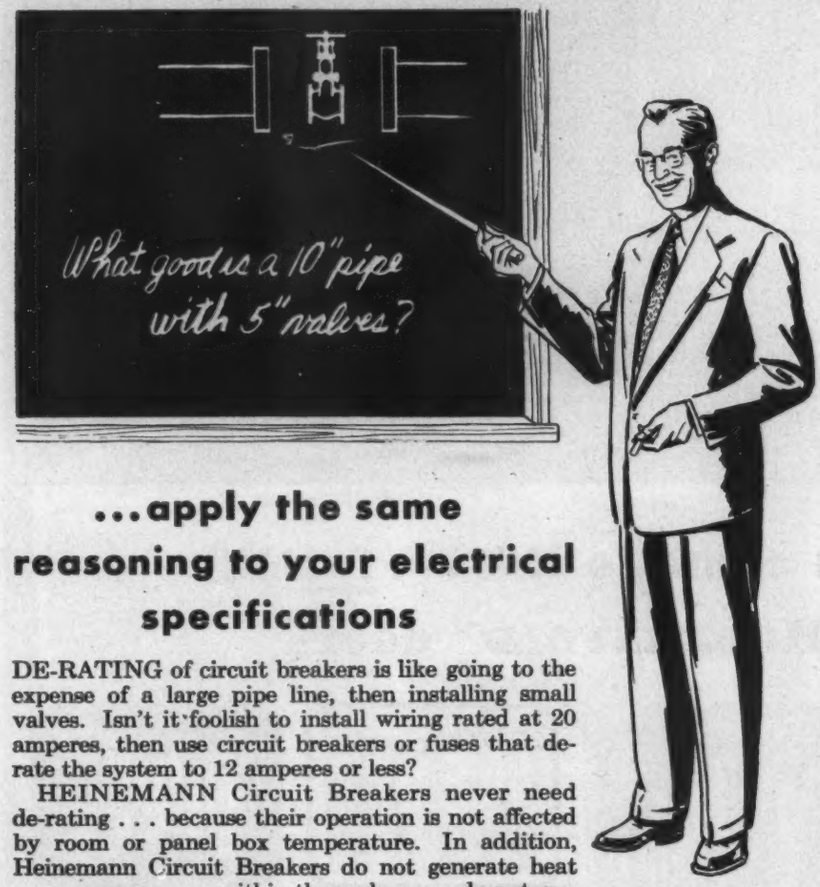
Lock utilizes various length bars to permit long setback from door edge

position. The 5 in. backsets are standard for the manufacturer's "A" series residential locks, while 5, 7 and 10 in. links are standard for "C" and "D" series heavy duty locks. Lengths other than these standards are available on special order. The ornamental potentialities of the system are further enhanced by a series of stock moldings and variety materials designed for use with the locks to obtain a wide range of decorative effects. The lowest-priced series of the locks is reported to be

Lock installed at center of door makes attractive decoration

within the hardware allowance of minimal houses. Schlage Lock Co., Bayshore Blvd., Box 3324, San Francisco 19, Calif.

(*Continued on page 314*)



...apply the same reasoning to your electrical specifications

DE-RATING of circuit breakers is like going to the expense of a large pipe line, then installing small valves. Isn't it foolish to install wiring rated at 20 amperes, then use circuit breakers or fuses that derate the system to 12 amperes or less?

HEINEMANN Circuit Breakers never need de-rating . . . because their operation is not affected by room or panel box temperature. In addition, Heinemann Circuit Breakers do not generate heat within themselves . . . do not employ thermal elements . . . the very factors that would necessitate derating. Yet, Heinemann provides the fastest circuit interruption available for short circuits, and proportioned response to allow for harmless overloads.

With HEINEMANN, 20 amperes means 20 amperes. It is extra capacity available without extra cost . . . to handle the future changing needs of your buildings.

Send for your copy of
"What You Should Know About Circuit Breakers".

don't use heat...*USE POWER*

HEINEMANN ELECTRIC COMPANY
115 Plum Street • Trenton 2, New Jersey

HEINEMANN Circuit breakers

The Secret of GOOD WASHROOM PLANNING

Fixture ratios based upon industrial plant populations, male and female

THE RIGHT FIXTURES

WATER CLOSETS

PERSONS MALE OR FEMALE	
1-9	1
10-24	2
25-49	3
50-100	5

Over 100, add 1 closet for each 30 additional persons.

URINALS

Wherever urinals are provided for men, one water closet less than the number specified herein may be provided for each urinal, except that the number of water closets shall not be reduced to less than ⅔ of the number specified herein.

LAVATORIES

PERSONS	LAVATORIES
1-100	1 for each 10 persons.

Over 100 add 1 lavatory for each 15 additional persons.

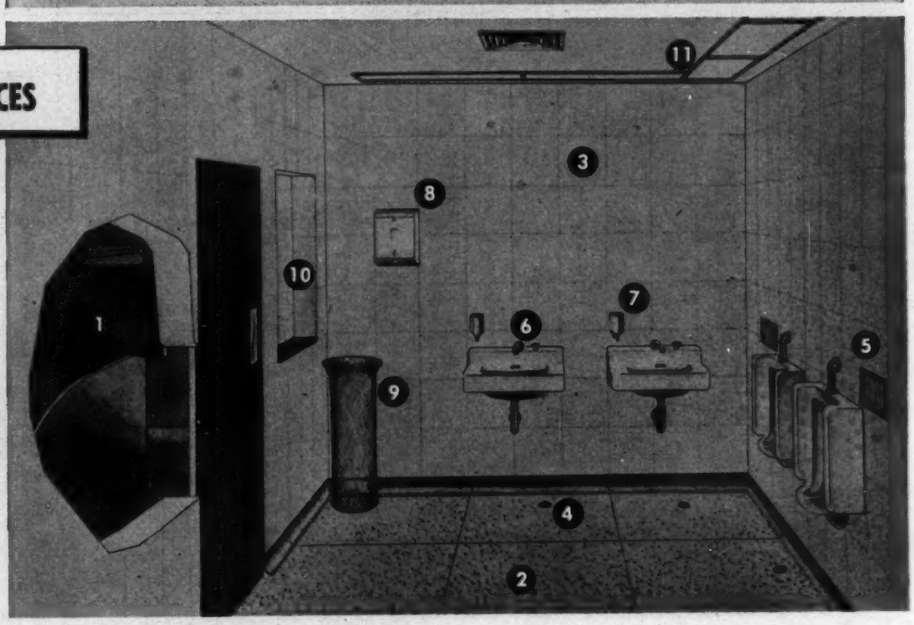
SHOWERS

1 for each 15 persons who may be exposed to excessive heat, or to skin contamination with poisonous, infectious, or irritating material.

...IN THE RIGHT PLACES

CHECK THE DETAILS OF THIS SMALL WASHROOM:

(1) Entrance shielded from work area.
(2) Sloped floors of terrazo (tile or concrete)—impervious to moisture, easy to clean. *Ideal drain location.*
(3) Glass or tile walls, walls and floors coved at juncture—moisture-resistant.
(4) Foot-control valves to operate wall-hung lavatories, urinals.
(5) Exhaust vents above fixtures.
(6) Single faucets for hot and cold water mixing.
(7) Soap dispensers over left side of basin.
(8) Towel dispenser away from basins, near exit.
(9) Waste receptacle with large open top.
(10) Recessed shelves, mirrors and lights.
(11) Recessed fluorescent lighting for proper illumination over facilities.



"Watch the details!"—sound strategy in planning *modern* washrooms. Fixtures should be modern, in sufficient number . . . and correctly located.

Up-to-date washrooms in your client's plant can save him thousands of dollars a year! Properly located facilities save man-hours wasted going to and fro. Good sanitary measures keep health and morale up . . . absenteeism down.

Questions? Send for the free pamphlet shown below. It's a good summary of the personnel, traffic and maintenance considerations that go into modern washroom planning. Need more details? Your Scott Washroom Advisory Service consultant has them all. He has the know-how gained by the group of Scott trained specialists who have serviced over half-a-million washrooms.

Contact Scott Washroom Advisory Service, Scott Paper Company, Chester, Pa.

SCOTT

Symbol of Modern Washrooms

Trade Mark "Washroom Advisory Service" Reg. U.S. Pat. Off.

Washroom Advisory Service, Dept. AR-3
Scott Paper Company
Chester, Pennsylvania

At no cost or obligation, please send me your study of personnel, traffic and maintenance problems, *"Plant Washroom Designing."*

Name_____

Company_____ Title_____

Address_____

City_____ Zone_____ State_____

B.F.Goodrich

glossy floors can be safe to walk on!

Arraflor Vinyl Plastic Asbestos Tile, backed by famous B. F. Goodrich research, provides beautiful flooring that is glossy in appearance, yet gives safe, "anti-skid grip" to busy feet.

B. F. Goodrich Arraflor offers owners of commercial, professional and residential buildings the long-sought combination of brilliant colors that will not fade or wear off, resistance to greases, oils and fats, plus safety. Moreover, Arraflor *needs no waxing*, for its rich lustre is made to sparkle with merely an occasional washing and dry buffing.

Investigate the many benefits that Arraflor offers your clients. For complete information on Arraflor and other B. F. Goodrich Flooring Products, see Sweet's Catalog or write: *Dept. A3, B. F. Goodrich Co., Flooring Division, Watertown 72, Mass.*

You can depend on B.F.Goodrich FLOORING PRODUCTS

RUBBER TILE · ASPHALT TILE · VINYL PLASTIC TILE · RUBBER COVE BASE · ACCESSORIES

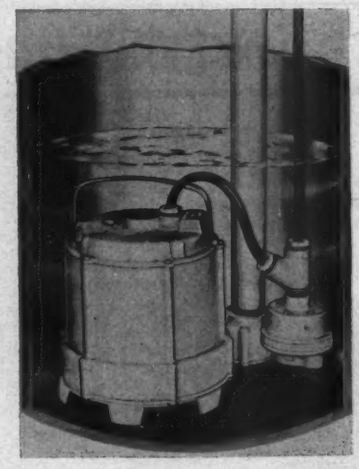
Architectural Engineering

PRODUCTS

(*Continued from page 312*)

Submersible Utility Pump

A completely submersible *Kenco* pump for sump drainage, drainage of flooded areas and buildings, pumping out of excavations and a variety of other applications is now available. The pump is said to be especially useful in factories, where there are boiler room pits, underground utility installations, elevator pits and other low areas. The submersible feature of the pump is made possible by the manufacturer's patented automatic



Submersible pump is easily portable

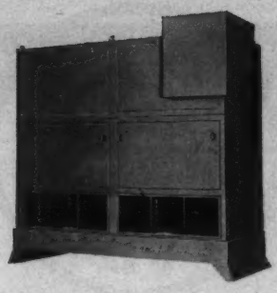
liquid level control switch, which eliminates the need for a float. This switch has no moving parts exposed to water and operates automatically when actuated by air pressure.

The pump's ⅓ hp motor is hermetically sealed in oil and is said to eliminate maintenance. The pump is compact and portable, and, according to the manufacturer, can be moved and placed in operation quickly and easily. Of all-bronze construction, it has a capacity of 3300 G.P.H. and can be operated both manually and automatically. Kenco, Inc., 1124 N. Ridge Road, Lorain, Ohio.

Metal Bracket for Switchboxes

A sure and easy method for holding a switchbox to plasterboard, plywood and many materials where screws or nails

(*Continued on page 316*)



COOLING TOWERS—Air Conditioning, Refrigeration, or Industrial Applications. Outdoor-Indoor. 5 to 75 Tons. Catalog 494.

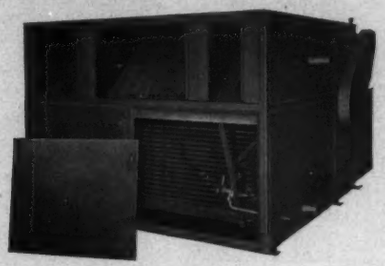
HEATING AND VENTILATING UNITS —Air Volumes 300 to 28,800 CFM. Catalog No. HV-1.

KENNARD *Engineered*

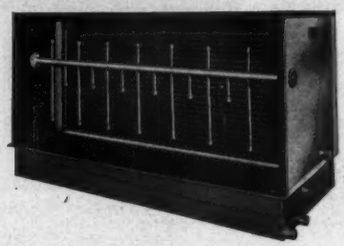
HEAT TRANSFER PRODUCTS

Architects, Consulting Engineers and Contractors have long known the quality performance of Kennard Heat Transfer Products. Now, more than ever, Kennard is being specified because of the many features frequently found only in Kennard products.

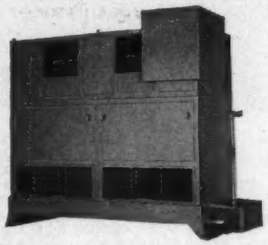
Specify Kennard on your next job.



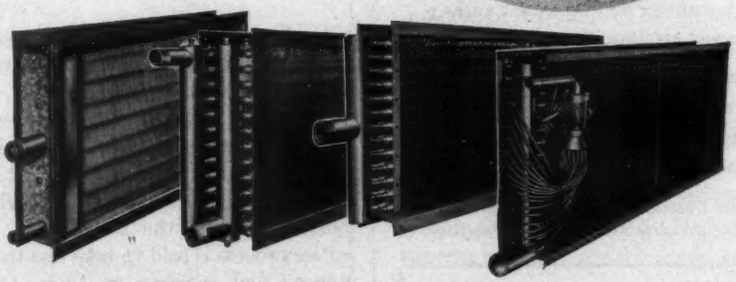
MULTI-ZONE UNITS—Sizes up to 36 sq. ft. Cooling Coil Face Area. Catalog MZ-1.



SPRAYED COIL DEHUMIDIFIERS—56 Sizes. Coil Face Areas to 81 sq. ft. Catalog No. SC-1.



EVAPORATIVE CONDENSERS —Indoor-Outdoor. 7½ to 75 Tons. Catalog No. 491.



FINNED COILS—Direct Expansion Coils, Water Coils, Steam Distributing Tube Coils, Standard Steam Coils. Sizes up to 48″ wide x 120″ long. Catalog No. 47A.

AIR CONDITIONING BLOWER UNITS—13 Sizes. 300 to 21,600 CFM. Horizontal or Vertical. Catalog No. 486.

Write for name of nearest representative and catalogs needed.

KENNARD CORPORATION • 1821 S. HANLEY ROAD ST. LOUIS 17, MO., U.S.A.

Park Plaza Apartments in Portland, Oregon. Architects: Dougan, Heimes & Caine. General Contractors: Reimers & Jolivette. Plastering Contractors: Fred Shearer & Sons Materials by: McCraken-Ripley Co. All of Portland.

Versatile stucco

offers modern tone and texture contrast

Stucco makes possible a smart modern appearance at low cost in this Portland, Oregon, apartment building. Snowy white stucco areas made with Atlas White Cement are decoratively accented by contrasting window sections made with standard grey cement.

A full range of stucco's color and texture possibilities can be achieved with Atlas White Cements. They are true white and make pure, *uniformly* white stucco, or enhance the delicate values of pigments in colored stucco.

Atlas White Cements are available in three types: Regular, Waterproofed and Duraplastic* air-entraining. Atlas White Duraplastic Cement gives increased plasticity for easier application—yet costs no more.

And from Portland to Palm Beach, builders know that the clean, crisp beauty of stucco properly made with Atlas White Cement will endure through summer sun or winter snow. Both original and upkeep costs are low.

For further information see SWEET'S Catalog, sections 4E/7a and 13C/5 or write to Atlas White Bureau, Universal Atlas Cement Company, (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

*"*Duraplastic*" *is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company*

AR-C-38

FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

"THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries Sunday Evenings—NBC Network*

PRODUCTS

(*Continued from page 314*)

are impractical is reported to be provided by the *Hilco* switchbox metal bracket. The bracket is made of aluminum and consists of a small angle piece, 2 in. long, $\frac{3}{8}$ in. wide and $\frac{3}{16}$ in. high, from which extends a triangular lip $1\frac{1}{2}$ by 1 in. From this lip a small sharp prong protrudes, and it is this which gives the bracket its gripping contact. Two brackets are sufficient to secure most switchboxes. When a section has been cut from the board and the switchbox is ready for installation, a bracket is inserted and positioned in the opening so that it fits firmly against the rear and

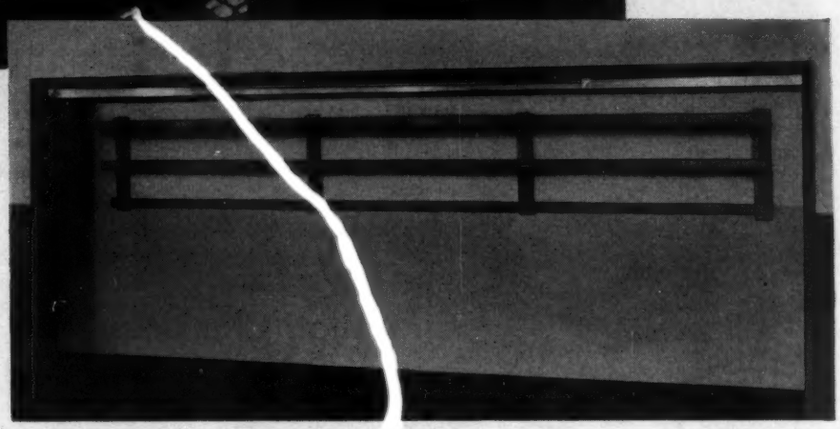
Brackets are inserted into opening cut in wallboard, hold switchbox in place

side edges of the opening. The procedure is repeated for the other side. When the two brackets have been inserted, the switchbox is inserted into the opening and the protruding bracket lips are bent inward so that they are brought flat against the inner surface of the switchbox, completing the installation. The entire process is said to take less than a minute and requires no tools. Other advantages of the brackets cited are that they may be placed anywhere along the opening where there are protruding wires or other equipment, and that they permit speedy removal of switchboxes. They may also be removed and re-used. Hilco Engineering Co., Genoa City, Wis.

(*Continued on page 318*)

BARCOL

WARDROBEdoor
FOR SCHOOLS



A New Type of VERTICAL Door to Save Space

The Barcol WARDROBEdoor is a two-section, vertical-acting arrangement specially designed for elementary schools where all the children in a classroom usually hang their outdoor clothes on one group of hooks. The main advantage of the Barcol door is a substantial saving in space, because the depth of the wardrobe can be reduced to the minimum required. The door does not protrude into the room in the open position, as some swinging and folding types do; hence, no space needs to be allowed for such protrusion. Since it operates *vertically,* the Barcol door clears the *full* wardrobe opening and requires no space *inside* the wardrobe like some others. The two sections are synchronized and move simultaneously, so the whole door is opened in *one* operation. Barcol WARDROBEdoors can be installed with a minimum of complications in existing, as well as new, classrooms. For more complete description and data, write for Bulletin F-4644.

SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARCOL

BARBER-COLMAN COMPANY
102 MILL STREET • ROCKFORD, ILLINOIS

how to be right on time—everytime

specify... a Cincinnati centralized time indicating, signaling and recording system

In all types of buildings, Cincinnati time control equipment has proven its dependability and economy. A leader in the industry for over half a century, Cincinnati offers a diverse line of equipment that enables the architect-engineer to lay out a system certain to reflect credit on his professional reputation. If desired, a Cincinnati time control engineer will assist you in system planning. This service is yours without obligation. Write today. Or, use coupon below, if you prefer.

HEART of every Cincinnati time and signal system is the MASTER-PRO. This unit synchronizes all clocks and recorders; sounds bells, horns, buzzers at pre-determined intervals. Clock circuits require only two wires. Unfailing accuracy assured by exclusive Cincinnati design.

Cincinnati Clocks...

styles to harmonize with your interior designs

free...Basic Specifications for a Centralized Time Indicating, Signaling and Recording System. Use the coupon to request your copy today!

Double dial bracket type. 12", 15" or 18" dial. Also made for chain suspension. Handsome!

Surface or flush type. Available with 9", 12", 15" or 18" dial—for surface or flush-to-wall mounting.

Ornamental skeleton clocks — made in sizes and styles to meet a wide range of design needs.

MAIL THIS COUPON WITHOUT DELAY

Cincinnati

THE CINCINNATI TIME RECORDER COMPANY

CINCINNATI 14, OHIO

THE CINCINNATI TIME RECORDER COMPANY
1733 CENTRAL AVE., CINCINNATI 14, OHIO

☐ Please send me a copy of your basic specifications for a centralized time indicating, signaling and recording system.

☐ Have a Cincinnati time control engineer get in touch with me.

NAME

FIRM

ADDRESS

CITY ZONE STATE

Architectural Engineering

PRODUCTS

(*Continued from page 316*)

All-Angle Spotlight For Display Lighting

Designed to fulfill requirements for all kinds of highlighting applications, the *Amplex Focalite* is said to be instantly adjustable to any angle required. The unit will also reportedly maintain its focused position at any setting. Made of one-piece aluminum with satin finish,

Spotlight adjusts to any angle

the spotlight is neatly styled to match any kind of decor. It will accommodate a Par 38 spot, flood, or colored reflector lamp, and is equipped with a 6 ft cord and plug. The spotlight is also used for indirect lighting in homes as well as for display purposes. Amplex Corp., Dept FP, 111 Water St., Brooklyn 1, N. Y.

Packaged Exterior Doors

Now available in 48 different styles is the new *Angel Door*. Suited to nearly all types of architecture because of the variety of styles, the doors are also made in two sizes and with various types of glazed panels. Faced with grained, exterior grade birch or fir, they are identical on both sides, and have a solid core. It is reported that they will withstand weather, warp and wear, due to the fact that they are bonded with water-resistant glue under high temperature and tremendous pressure. They are shipped unfinished in individual dust-proof cartons, and may be finished in their natural grain or painted. The door may be hung either right or left. Angel Novelty Co., Fitchburg, Mass.

(*Continued on page 320*)

Architects: Raymond B. Spencer & Associates, Memphis, Tenn.

UNSURPASSED ADAPTABILITY

TO DESIGN REQUIREMENTS

IS OFFERED BY

Carrara Glass

● IN CARRARA STRUCTURAL GLASS the elements of decoration are inherent. Whether the design stresses modern simplicity or emphasizes unusual decorative appeal, America's architects have found it a most flexible medium—for interior walls, as well as for exterior application, as illustrated. Here, forest green Carrara Glass was utilized for the facia and pilasters to give this restaurant unusual appeal, permanence and low maintenance cost.

Carrara Glass is precision-manufactured, mechanically ground and polished to a flawless, flat, reflective surface. It permits true, even joints. There is no lippage, no warpage. It is impervious to weather, moisture, chemicals, grease, pencil marks. It will not check, craze, fade or stain; does not absorb odors. And its ten beautiful colors permit a wide variety of combinations. Consult Sweet's Catalog for detailed information on Carrara Glass, or write to Pittsburgh Plate Glass Company, 2098-2 Grant Building, Pittsburgh 19, Pa.

the quality structural glass

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

PRODUCTS

(*Continued from page 318*)

Italian-Designed Occasional Pieces

Recently exhibited at the Fourth Annual Summer Furniture Market in Chicago was the *Profile Chair*, designed by the Italian architect-designer, Maurizio Tempestini. In appearance it is a high backed, armless chair supported on two U-shaped wrought iron legs, rubber tipped, and joined by an X-shaped stretcher. The seat and back are woven of Italian wicker, and for easy carting about there is a convenient opening high on the back. Available in two seat heights, it may be used as an occasional chair or as a dining chair.

Tempestini group consists of four raffia upholstered chairs and glass topped table

Another Tempestini design shown at the mart is a three-tiered *Service Wagon* of wrought iron framing. The two upper shelves are of glass crystal and the bottom shelf of figured frosted glass. The wagon is fitted with a set of small casters in front and a pair of large wheels in back. Below the handle is a shelf fitted with a removable wicker basket.

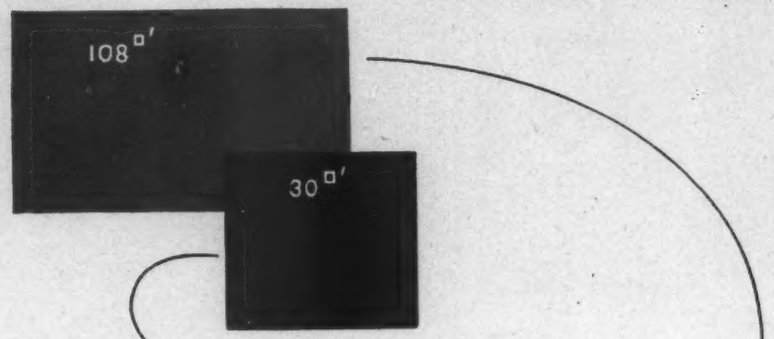
Wicker chair is supported on wrought iron frame, has hand-hold for easy carrying

Also displayed were a *Sta-Out Swivel Chair*, a new *Wedge-Shaped Table*, and the popular *Fruit and Flower Group*, the latter consisting of four low, raffia upholstered chairs and a glass topped table, fitted with a planter, and set on wrought iron legs. John B. Salterini Co., 510 E. 72nd St., New York, N. Y.

Space-Saving Food Freezer

Incorporating all of the features of the earlier and larger G.E. models, the new *11 cu ft food freezer* is a full ft narrower in width. It is reported that natural draft condenser cooling has made it possible to combine the freezing mechanism and freezer in a single integrated unit without affecting storage capacity or depth. A distinct feature of the new freezer is that it reportedly can fast-freeze up to 60 lb of food in a 24-hr period and that it has a capacity of 389 lb of food. There is a counter-balanced lid, adjustable temperature control, and automatic interior lighting. An outside light to indicate proper or improper functioning is also included on the freezer. Major Appliance Div., General Electric Co., Louisville, Ky.

(*Continued on page 322*)



this area actually has 300% more exit capacity than this

● **Architect:** "The most efficient fire escape on the market"!

A Potter interior Spiral Escape requires only 30 square feet of floor area and will evacuate 3 times as many people safely, under emergency conditions, than a typically enclosed stairway requiring 108 square feet of floor area.

The Potter Slide Escape listed by the Underwriters Laboratories as standard offers, in multi-storied buildings, the fastest means of evacuation for the lowest initial cost and the lowest of maintenance cost. It has no equal for the handling of hospital and institutional patients and school children.

Plan to incorporate this modern emergency escape, with a 20 year record of successful use, in your next project.

Potter's Slide Escapes may also be installed economically on the exterior of old buildings.

● **Fire Chief:** "We heartily approve of the Potter Fire Escape, recommend it to anyone".

POTTER FIRE ESCAPE CO.

We make this product only

● **Send the coupon for full information. See our catalog in Sweets.**

POTTER FIRE ESCAPE CO.
6107 No. California Ave.
Chicago 45, Illinois

Gentlemen:

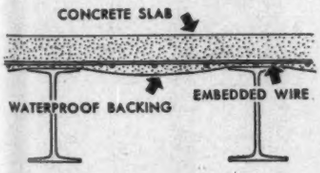
Please send us specifications and details of the Potter Spiral Escape for both exterior and interior installation.

Name_____

Address_____

City_____

mammoth decks of this huge new air terminal poured over Steeltex Floor Lath



Note, *in the cross section and closeup that the weight of the wet concrete forces the backing away, which permits the galvanized welded wire mesh to assume its proper position in the slab. Steeltex Floor Lath also performs two other functions. It permits work on the floor below while pouring is in progress and retains moisture to assist proper curing.*

Greater Pittsburgh Airport, destined to become an inland hub of international air traffic, is greater in size than LaGuardia and National Airports combined. The terminal, aptly described as a city within a city, is so extensive that it is able to contain a hotel, theatre, bank, public garage, nightclub, shops and restaurants in addition to its normal facilities.

It was no mere coincidence that the broad concrete decks necessary to carry this load should be poured over Steeltex Floor Lath. Steeltex offers speed and economy because it may be rapidly installed and work may continue on the floor below while pouring is in progress. It insures high quality and safety because the galvanized welded wire mesh is properly embedded and the slab is properly cured because the tough waterproofed backing retains the water, thus insuring the correct water-cement ratio. For detailed information about Steeltex Floor Lath, the combined form and reinforcing, see our catalog in Sweet's or write for catalog D.S. 133, Dept. AR, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Co.
A Subsidiary of Pittsburgh Steel Company

PRODUCTS

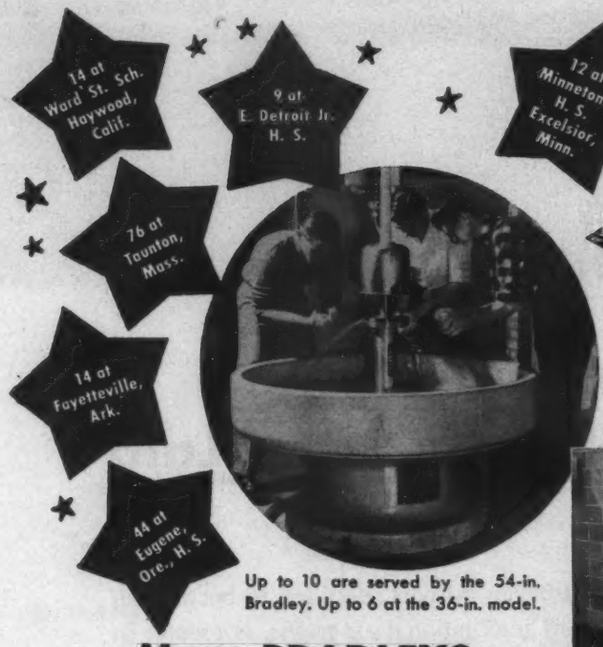
(*Continued from page 320*)

New Bedroom Furniture

Recently introduced at the Chicago and New York furniture markets is a functional new line of bedroom furniture called *Combinaire*. The pieces are of uniform size and may be used in a variety of combinations, arranged individually or stacked one piece atop another. In-

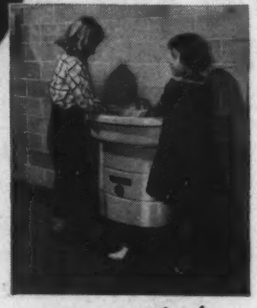
Chests may be arranged as desired

cluded in the basic group are a double dresser, chest, bed and two night tables. Accessory pieces consist of a full length mirror, small chest, single dresser and pouf. A shelf storage headboard bed is also available. Constructed of selected mahogany veneers, the furniture may be obtained in a deep Cordovan or in Vadero Sand. Drawer pulls are made of looped brass in distinctive combinations, and a choice of 8-in. polished cylindrical brass legs or matching wood runner bases is offered. Home Furniture Co., York, Pa.


14 at Ward St. Sch. Haywood, Calif.
9 at E. Detroit Jr. H. S.
12 at Minnetonka H. S. Excelsior, Minn.
15 at Sir Francis Drake H. S. San Anselmo, Calif.
76 at Taunton, Mass.
14 at Fayetteville, Ark.
44 at Eugene, Ore., H. S.

Up to 10 are served by the 54-in. Bradley. Up to 6 at the 36-in. model.

Below—The DUO-Washfountain serves two—has foot-control, too. For smaller washrooms, cafeterias, laboratories, etc.



More BRADLEYS Wherever Schools are Built

• School authorities, architects and builders, PTA's all have insisted on the maximum in sanitary washing facilities—as witness the almost universal use of Bradley Washfountains in modern school buildings everywhere.

Bradleys provide more facilities in given space, reduce piping connections and installation by 70% or more, and save on water consumption.

With foot-control, hands are free to wash in the clean running spray of water. Hands make no contact with possible germ-carrying surfaces. There are no faucets. Up to 10 wash simultaneously at the 54-inch model which may be supplied with juvenile height pedestal for little folks. Catalog 4701 will help you select style and type. Copy free on request. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan Street, Milwaukee 1, Wisconsin.

BRADLEY washfountains

Distributed through Plumbing Wholesalers

Sliding Doors

A new *Hollow Metal Sliding Door* has recently been brought to the market for the purpose of saving space in small apartments, homes and offices. The door is semi-flush, with two slightly indented vertical lines where the metal sections are joined, resulting in a simple decorative effect as well as affording additional strength. Extremely light in weight, the door is reported not to warp, bind or sag,

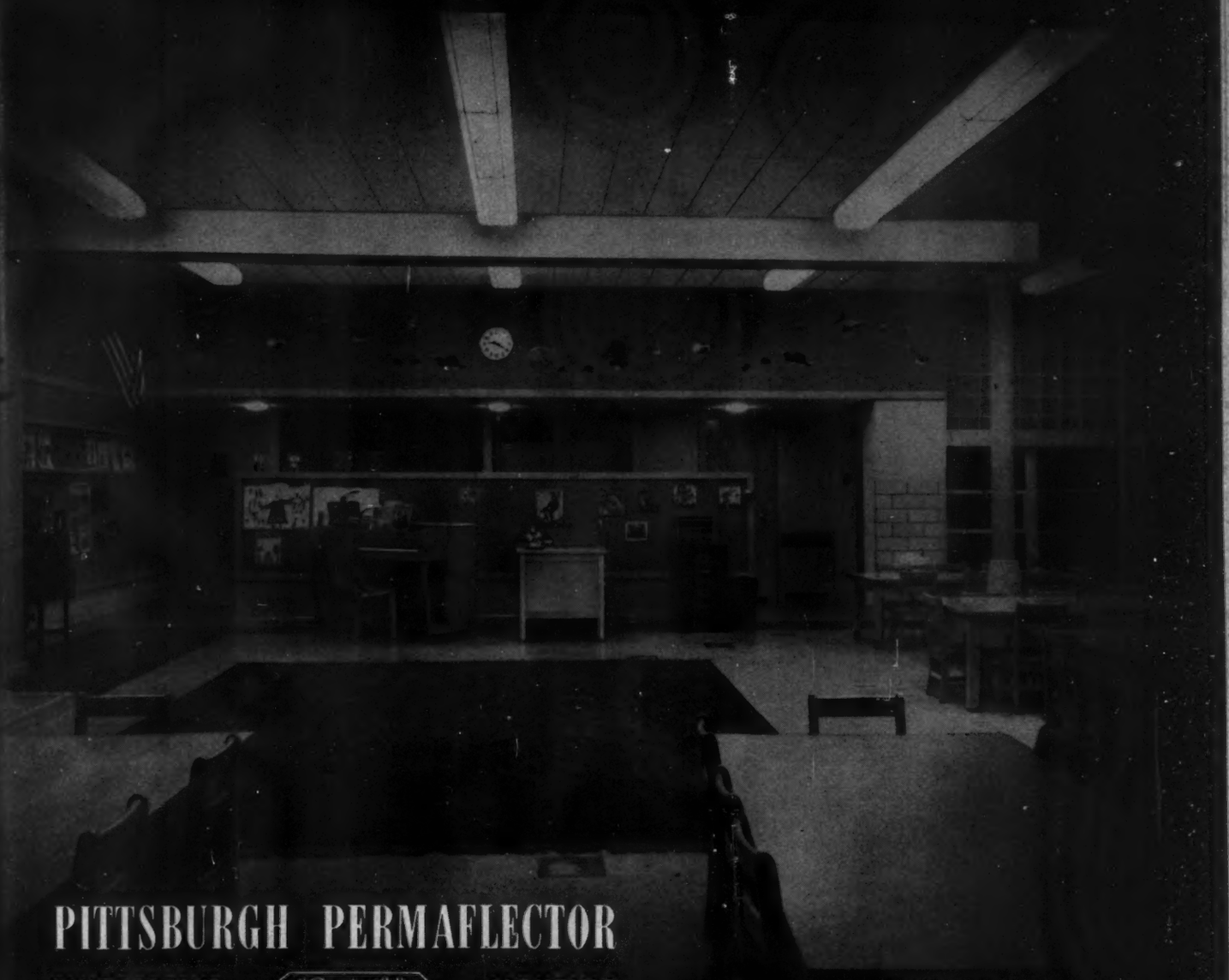
Hollow sliding door is made of welded steel, saves space in small quarters

and also to be fairly sound proof — due to its hollow construction and close fitting frame. Installation is no problem since the entire frame, overhead track and sliding mechanism are completely prefabricated. Available in standard size, it is constructed of 20 gauge steel, electrically welded throughout.

Also available in the line is the *Sliding Closet Door*. Operating on ball bearing sheaves and floor track, it is the sliding, bi-passing type. Diebold, Inc., Canton 2, Ohio.

(*Continued on page 324*)

something better HAS COME TO school lighting



PITTSBURGH PERMAFLECTOR

FLUORESCENT
INCANDESCENT

"Pittsburgh" Permaflector

LIGHTING
EQUIPMENT

HILLCREST SCHOOL, Upper Darby, Pa.
Architect: Burgin & Bunnell
Engineer: Purnell, Kearns & Fuller
Elec. Contr.: Electro Construction Co.

THIS BOOKLET

TELLS THE STORY

If you want to know how to plan good lighting for every schoolroom use, write for this valuable booklet.

PITTSBURGH REFLECTOR COMPANY

402 OLIVER BUILDING • PITTSBURGH 22, PENNSYLVANIA

MANUFACTURERS OF FLUORESCENT & INCANDESCENT LIGHTING EQUIPMENT

Permaflector Lighting Engineers in All Principal Cities

PITTSBURGH PERMAFLECTOR LIGHTING EQUIPMENT IS DISTRIBUTED BY BETTER ELECTRICAL WHOLESALERS EVERYWHERE

PRODUCTS

(*Continued from page 322*)

New Products for Bathtubs

• A new method for protecting porcelain plumbing fixtures from the damage often encountered in building operations is afforded by *Liquid Envelope*. The peelable plastic protective film is the same kind of material used by the Navy to mothball ships and planes after World War II. It can be sprayed on bathtubs in as little as 5 minutes, using less than one gal. and forming an elastic, impervious strip coating. When construction operations are finished, the coating can be cut cleanly at the edges and peeled back. All the debris is gathered up in one operation and the fixture underneath is factory-new. The plastic coat is said to afford greater protection with far less labor than conventional pasted-paper covering. The product is also applicable for a wide variety of other purposes where it is desirable to protect surfaces during assembly, delivery and installation. Better Finishes and Coatings, Inc., 268 Doremus Ave., Newark 5, N. J.; 122 E. 7th St., Los Angeles 14, Calif.

Plastic protective film is sprayed over tub (left) and permitted to form crust

Later (right) film peels off easily

• The *Cascade*, a new kind of bath enclosure by Fiat Co., is made of rigid, sliding panels of Plexiglas. Available in pink and gold transparent pastels or in clear plastic, the panels are said to slide easily in a metal track cemented on the tub rim. The tops are held in place, without tension or binding, by a slotted head rail, and there are no moving parts or mechanical devices such as rollers to get out of order. Installation is described as simple. Only two wall fastenings are required, one at each end of the top rod. The track is cemented to the flat part of the tub rim with a special cement. The enclosure can be installed on a standard five foot recessed tub without special trimming or fitting of panels, and it can be removed and reinstalled easily. The panels themselves are shatterproof and both heat and water resistant. Cost of the new enclosure is reported to be lower than that of glass panel enclosures. Fiat Metal Mfg. Co., 21–33 Borden Ave., Long Island City, N. Y.

• *Sani Tub-Seal*, a white vinyl plastic sealing strip is reported to enable anyone to form quickly and easily a neat

(*Continued on page 326*)

Today, as never before, every school needs the protection of concrete vaults and fire-resistive doors. These vaults should have sufficient storage space not only for important records but also for valuable equipment when not in use, such as — laboratory equipment, accounting equipment, trophies, etc.

Your client will appreciate your suggestion of this type of protection and your recommendation of Herring-Hall-Marvin vault entrances.

See our section in Sweet's File for detailed information on single and double door vault entrances with 2, 4 or 6-hour certified fire resistance, or write for complete catalogue.

HERRING-HALL-MARVIN SAFE COMPANY

ALL OVER THE WORLD — HERRING HALL MARVIN SAFE CO. HAMILTON OHIO, U.S.A. — IT'S A SAFE NAME

GENERAL OFFICES AND FACTORY—HAMILTON, OHIO
BRANCHES IN: ATLANTA, BOSTON, CHICAGO, DETROIT, HOUSTON, LOS ANGELES, MINNEAPOLIS, NEW YORK, PHILADELPHIA, SAN FRANCISCO, ST. LOUIS, WASHINGTON. Other agencies all over the world.

ACOUSTICAL MATERIALS AT WORK

THE PRESIDENT CAFETERIA, New York City

Architect:
Louis Allen Abramson

General Contractor:
M. Gerber Construction Co.

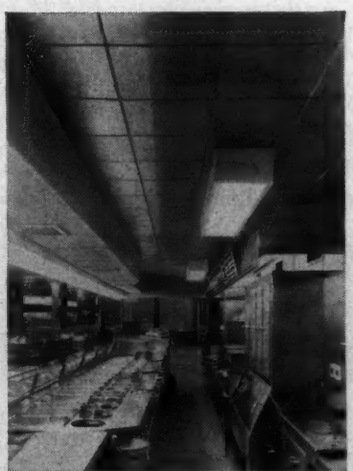
Acoustical Contractor:
William J. Scully Acoustics Corp.

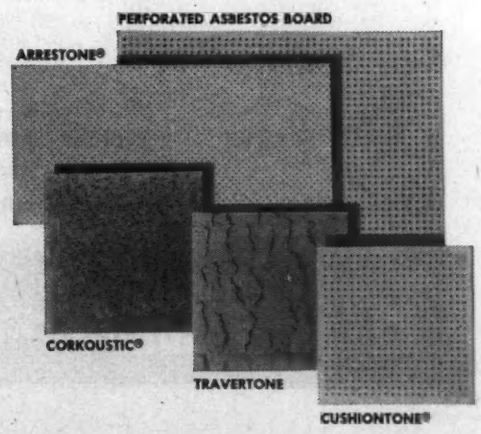
The architect's selection of an acoustical ceiling for the President Cafeteria was decided by three requirements: beauty, incombustibility, and, of course, acoustical efficiency. Armstrong's Travertone not only met these demands but offered good light reflection value and ease of maintenance. Also, it could be easily installed with recessed lighting and ventilating equipment.

Travertone's distinctively fissured surface is well suited to the modern decor of the main dining area. Its unusually efficient absorption of high frequency noises adds extra insurance against the harsh clangor of trays and utensils common in cafeterias. Travertone's mineral wool composition meets the fire-safety requirements of New York's building code.

Armstrong's complete line of acoustical materials offers you a wide range of special features. Your Armstrong Contractor will give you expert advice without obligation. For free booklet, "How to Select an Acoustical Material," write Armstrong Cork Company, 2403 Stevens St., Lancaster, Pa.

Perforated "metal-pan" units of Armstrong's Arrestone were used in the serving area. This material is unusually high in sound absorption, easy to clean, and incombustible. To harmonize with the exposed metal work in this area, the architect specified Arrestone pans of aluminum with a bare mill finish, rather than the usual steel units with enameled finish.





ARMSTRONG'S ACOUSTICAL MATERIALS

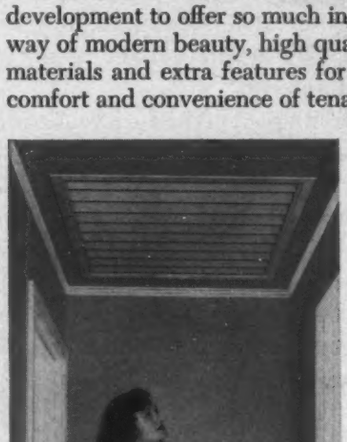
WHERRY HOUSING AT KEESLER AIR FORCE BASE, BILOXI, MISS.

Sponsored by Russel S. Wilkinson, James E. McGehee, Robert G. Snowden and Max B. Ostner of Memphis, Tenn. Architect: Everett Woods; Contractors: Wilkinson, Snowden & McGehee. The 2-bedroom house pictured below rents for $85.00 and is one of 718 units which include duplexes and 2, 3 and 4-bedroom residences.

*Includes contractors' and architect's fee. Exclusive of land.

New 718-unit project provides cool comfort for Air Force families

It is unusual for a low-cost housing development to offer so much in the way of modern beauty, high quality materials and extra features for the comfort and convenience of tenants. One of the most popular features of this Keesler Housing Project are the Hunter Attic Fans which will keep occupants cool and comfortable on hottest summer nights.



Cool comfort at low cost

The sponsors of Keesler Housing selected Hunter Package Attic Fans because of their dependable performance and low-cost installation. Fan, motor and suction box are all in one unit that requires only a ceiling opening in hallway and 18" clearance in the attic. Four models, ranging from 4750 CFM to 9700 CFM (ratings certified) fit any home size and any climate. Quiet, powerful, dependable, these fans are guaranteed by Hunter—exclusive fan makers since 1886.

Wall switch starts fan and opens automatic shutter to pull in the cool night air and drive out the oven-like heat that accumulates throughout the day. In only a few minutes it's 10 to 20 degrees cooler inside.

Write for 36-page booklet, "How to Cool for Comfort" and complete data.
HUNTER FAN AND VENTILATING COMPANY
396 S. Front St., Memphis 2, Tenn.

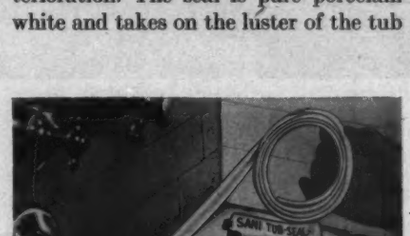
HUNTER *Package Attic Fans*

Architectural Engineering

PRODUCTS

(*Continued from page 324*)

waterproof seal where wall and bathtub meet. The product is said to unite the two so well that the strip appears to be an integral part of the tub. Since the strip forms a waterproof seal, spray from the shower reportedly can not seep down between wall and tub, causing wall deterioration. The seal is pure porcelain white and takes on the luster of the tub



Sealing strip is applied to tub edge, assumes color and appearance of porcelain

surface. Greaseproof, stainproof and easily cleaned, it remains securely in place after installation. Application is a simple process. The strip is first placed in hot water to make it pliable. It is then dried and a special cement is applied to both flanges as well as to the wall-tub joint. The strip is next pressed into place with the fingertips, and installation is complete. Cass Products Co., 6127 N. Cicero Ave., Chicago 30, Ill.

Color Matching Paints

It is claimed that perfect matching of any color in fabrics or wallpaper may now be obtained with the use of the *Colorizer Paint System.* Containing a range of 1322 light shades and 648 dark ones, each shade is identified by number in the Colorizer catalog, and beneath each number is given the formula for combining colorant with gray or white base to produce the color selected — in gal., qt, pt or ½-pt. The colorant comes in a tube, which is squeezed into the can of base paint, then given a stir to distribute the color evenly. An added ad-

(*Continued on page 328*)

Specify philippine mahogany

Photo shows extensive use of Philippine Mahogany in small Cape Cod home.

Get BETTER LOOKING LONGER LASTING INTERIORS

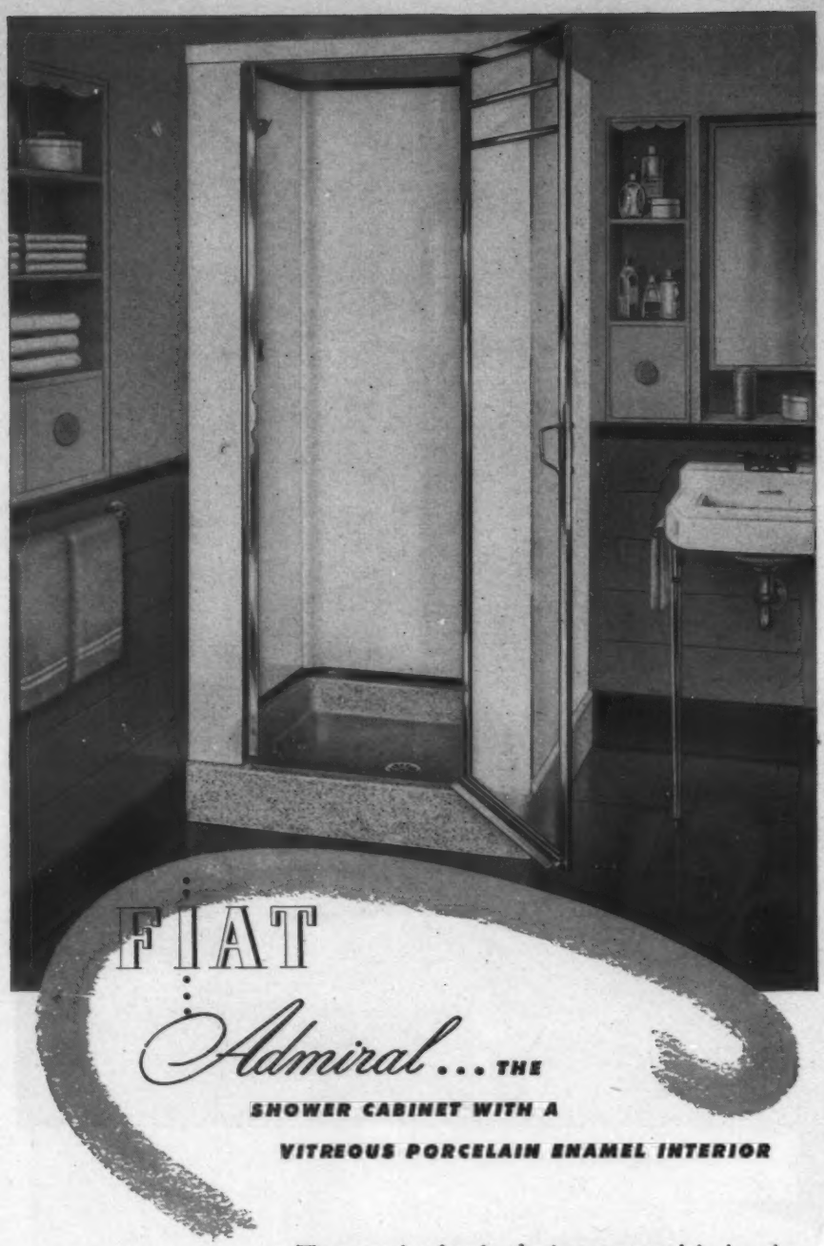
Today, the building profession is fortunate in having Philippine Mahogany available for paneling, fixtures and trim, in both solid lumber and plywood. Even your most discriminating clients will like the interesting grain and beautiful natural color of this tropical hardwood, and its long life and easy maintenance will be appreciated long after the original cost is forgotten. Incidentally, it's competitively priced with other woods and building materials.

PHILIPPINE MAHOGANY IS IDEAL FOR HOME IMPROVEMENT

Investigate the advantages of using Philippine Mahogany for paneling a single room, or remodeling an entire home. Write for literature.

PHILIPPINE MAHOGANY ASSOCIATION, INC., Dept. AR—111 W. Seventh St., Los Angeles, Calif.

PHILIPPINE LUMBER PRODUCERS' ASSOCIATION, INC., MANILA



The smooth, glass hard, vitreous porcelain interior surfaces of the Admiral Shower provide the ultimate in cleanliness and sanitation, they remain white and impervious to wear for a lifetime. Exterior of side and back panels are regularly finished with vitreous porcelain enamel ground coat, but can be furnished to match interior at small extra cost. Front stiles and head rail, bonderized, galvanized steel finished in white synthetic baked-on enamel. Receptor, deep type terrazzo made of black and white marble chips and white cement. Sizes 36" x 36" x 80" and 40" x 40" x 80". Illustration shows this shower equipped with a Fiat Dolphin heavily chromium plated glass door. The Admiral shower is suitable for high grade residential and institution installations.

Complete specifications in Sweets' Architectural Catalog File, or write any of the three Fiat plants for catalog.

FIAT

FIAT METAL MANUFACTURING CO.

Three complete plants

Chicago 13, Ill. Long Island City 1, N. Y. Los Angeles 63, Calif.

In Canada—Fiat showers are made by Porcelain and Metal Products, Ltd. Orillia, Ontario

PRODUCTS

(*Continued from page 326*)

vantage of the system is the fact that the exact shade of a hue used before may be matched, even if ordered in another city, simply by giving the tube number of the color. The colors come in flat, semi-gloss, enamel, floor enamel and outside house paint, and they are washable. Based on the Ostwald Color System, Colorizer was devised after 12 years of research. Colorizer Assoc., 65 W. First, S., Salt Lake City, Utah.

Hinged-Lens Fluorescent Fixture

A modification of the *Plexoline-2* fixture features a separable hinging arrangement which allows hinging from either side or complete removal for maintenance. Used in runs, the units provide a continuous line of low brightness with no straps or couplings to throw shadows across the lenses. Like its predecessors, the new hinged unit is an integral part of the complete Plexoline

Hinged-Lens fluorescent units can be custom fitted for individual installations

system and when combined with circular units and adapters it can be formed to custom-tailor lighting for individual installations. Curves, angular patterns and abstract designs can be formed with the units in combination.

The hinged-lens unit is recommended for surface mounting only. It is available in 8 and 4 ft sizes for both slim-line or fluorescent lamps. Enclosure and chassis are finished in white enamel, side panels are of ribbed glass with low surface brightness and high light transmission quality. Top reflector plates are furnished to increase effectiveness of direct light distribution. Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis, Mo.

(*Continued on page 330*)

IDEAL FOR STORES, SHOWROOMS, SCHOOLS, BANKS, HOTELS, HOSPITALS, THEATERS, CHURCHES, OFFICES, VESTIBULES AND OTHER COMMERCIAL AND PUBLIC BUILDING AREAS

A remarkably useful unit with dozens of applications

MODINE Cabinet Units meet the requirement for fast, positive and quiet distribution of heated or cooled air — where the expense and elaborateness of unit ventilators or air conditioners are not warranted.

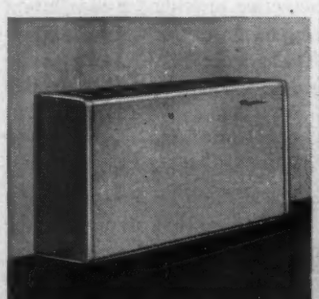
Models for heating with steam or hot water . . . cooling with chilled water. Cooling models may be used for *both chilled water cooling and hot water heating.*

Exceptionally attractive in appearance and versatile in application, Modine Cabinet Units offer many interesting possibilities for new buildings and remodeling jobs. Available in five sizes from 120 to 640 Edr.

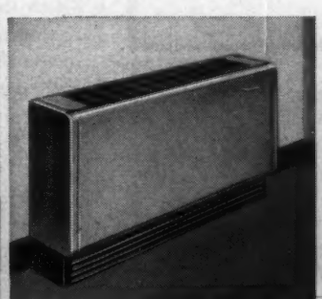
GET FREE ILLUSTRATED BULLETIN 550 TODAY and find out how you can profitably use Modine Cabinet Units. Call your Modine representative listed in the classified section of your phone book. Or write direct to Modine Manufacturing Company, 1510 DeKoven Ave., Racine, Wis.

Modine
CABINET UNITS
FOR HEATING & COOLING

C-1145

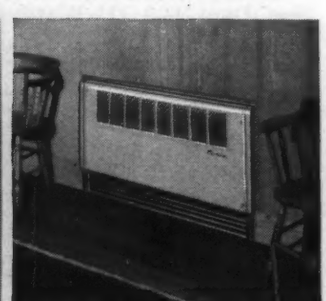


Type C — basic Modine Cabinet Unit for wall mounting where off-the-floor installation is desired.



Attractive louvered plenum base — with or without fresh air damper — makes Type C a floor mounted cabinet.

Type C with optional inlet grille for ceiling use — (heating only). Duct connectors also available.



Type CR with face outlet grille and plenum base for recessed installation. This unit for heating only.

In N.B.C.'s newest TV studio it's AMPLEX SWIVELITES

Lighting layout designed by Messrs. S. Atwood and C.W. Bullock, N.B.C. . . . Swivelites supplied by Graybar Electric Company.

N.B.C. engineers in designing WNBT's latest TV studio for Dave Garroway's program, "Today", called for the last word in every telecasting detail . . . and that meant Amplex Swivelites for the all-important lighting effects. More than 200 Swivelites are employed. Besides the ceiling installation, other Swivelites are mounted on portable floor troughs for use as footlights.

Amplex Swivelites are today's first choice for effective and economical display lighting. Their special double-ball swivel provides positive, finger-tip positioning. Cool, ventilated hoods prolong lamp life. Every Swivelite consists of a few basic units which are interchangeable with every other.

For top effectiveness, and to save time and costs in arranging new lighting effects, get the whole Amplex Swivelite story. **Write Amplex Corporation, Dept. D-3, 111 Water St., Brooklyn 1, New York.**

Complete line of Swivelites for all highlighting needs

C11SH

C12SH-12

Focalite B-5

Hi-Hat 711G

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlites and Floodlites, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

PRODUCTS

(*Continued from page 328*)

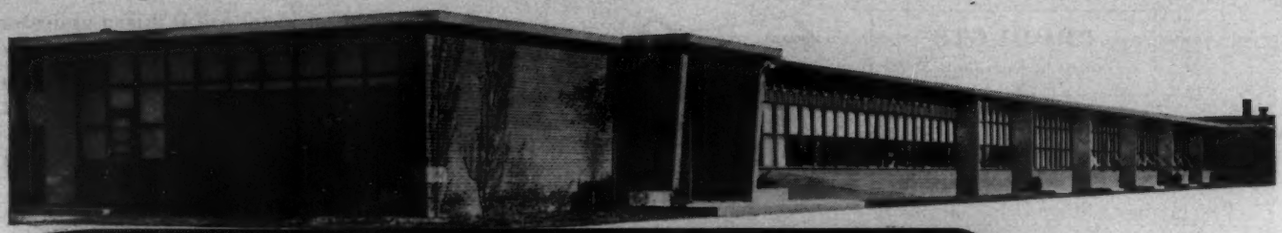
New Floor Coverings

Recently introduced to the market were four new carpet lines. The *Joseph Blumfield* line, of which all items are handmade, includes: "Lotus," a high-piled carpet, interwoven with metallic threads, featuring a flower motif and unusual design; "Poodle Curl," whose name suggests its appearance; "Iridescent," a geometric pattern with luminous tones created by metallic thread; "Pueblo," a multi-colored striated design, showing early Spanish, Mexican and Indian influence; "Spring," a stylized flower and leaf pattern enclosed in embossed scallops and flecked with metallic threads; and "Rio de Janeiro," a combination of wool and metallic threads suggesting a mosaic motif. The *Cranleigh* Line features color and texture primarily and consists of cut-pile worsted yarns, available in 35 standard and 62 Kenmore colors. Also new are the *Imperial Pagoda* line, handmade in Puerto Rico of closely woven high cut piles which point up texture, and which is available either carved or uncarved, and the *Majestic Harmony Collection*, also made in Puerto Rico, which includes 60 patterns of hand tufted, cut and uncut piles of fine wool, creating unusual textural effects. Kenmore Carpets Corp., 208 E. 58th St., New York, N. Y.

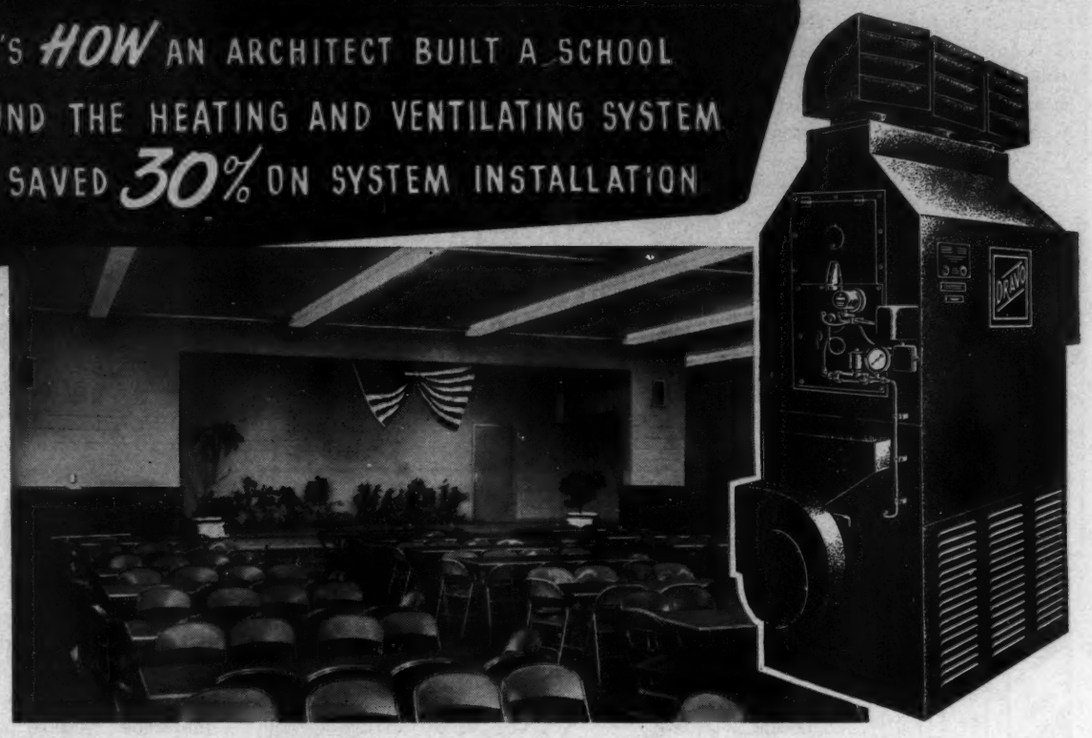
Emergency Showers for Industrial Uses

A new series of emergency showers designed to dilute and remove acids or other chemicals and foreign materials contaminating clothing or the body has been introduced by *Logan*. Three models in the series provide for maximum, medium or minimum exposure requirements. The maximum exposure model will reportedly remove water-soluble contaminating elements within 15 seconds. Other models take only slightly longer. The speed with which the showers operate is effected by placement of a number of sprays so that all parts of the body are reached simultaneously and wetted thoroughly. Logan Emergency Showers, Inc., P.O. Box 111, Glendale, Calif.

(*Continued on page 332*)



HERE'S *HOW* AN ARCHITECT BUILT A SCHOOL AROUND THE HEATING AND VENTILATING SYSTEM AND SAVED *30%* ON SYSTEM INSTALLATION



Listed by Underwriters' Laboratories

Approved by American Gas Association

Dravo "COUNTERFLO" Heaters operate automatically, provide constant-temperature fresh air to Hillsborough School.

When the Hillsborough, New Jersey, School was built, architect Jay C. VanNuys specified Dravo "Counterflo" Heaters and built the school *around* the heating and ventilating system, rather than trying to "fit" the system to the school.

Two direct-fired "Counterflo" Heaters, with an output of 1,750,000 Btu per hour each, heat 20,000 cu. ft./min. of fresh filtered air for the 21 rooms of the new school building during the winter months. In warm weather, these same heaters provide comfortable ventilation for the entire school.

The heating and ventilating system is thermostatically controlled and automatic in operation. The unique construction of the school eliminated the need for duct work.

THE RESULTS? The Dravo heater installation at 81¢ per sq. ft. cost 30% less than would a conventional "wet" system; heating and ventilating represented 7% of the total building cost.

Versatile Dravo Heaters can solve many school heating problems.

Dravo "Counterflo" Space Heaters are ideal for heating and ventilating such school facilities as . . . gymnasiums . . . auditoriums . . . stadium rooms . . . libraries . . . cafeterias . . . book stores . . . locker rooms . . . field houses . . . school garages . . . indoor swimming pools . . . manual training shops . . . laundries . . . classrooms.

DRAVO HEATERS OFFER YOU—

- **Low initial cost . . . users report 50% to 60% savings.**
- **Concentration of heat at working level.**
- **Low Fuel consumption . . . burn gas or oil . . . easily converted.**
- **Automatic Control . . . on-off or modulating controls.**
- **Long service life, low maintenance . . . stainless steel combustion chamber.**
- **Mobility . . . easily moved to any location.**
- **Flexibility . . . where floor space is limited, can be wall-hung or suspended from trusses.**

Planning a school building? Why not look into the possibilities of Dravo "Counterflo" Heaters for your heating and ventilating needs? Write today for Catalog NO—524-5768.

DRAVO CORPORATION
HEATING DEPARTMENT, DRAVO BUILDING, PITTSBURGH 22, PA.
Sales Representatives in Principal Cities

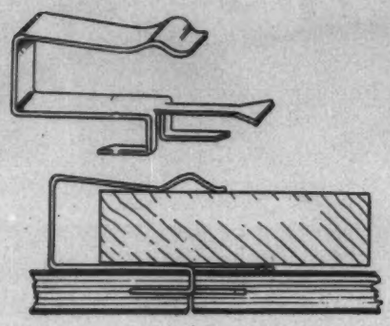
Manufactured and sold in Canada by Marine Industries, Ltd., Sorel, Quebec
Export Associates: Lynch, Wilde & Co., Washington 9, D.C.

PRODUCTS

(*Continued from page 330*)

Fastening Devices for Wallboard

Two products designed specifically for use with non-wood sheathing and wallboard are being made available. The *E.G. Loc-Nail*, for ½ or 25/32 in. non-wood sheathing, is said to help facilitate superior construction at low cost. When a rear flange of the one-piece, pressed-and-bent metal nail is driven against a forward flange, a radial torque action causes the front to buckle downward, gripping the back of the sheathing through which the nail has been driven. The nail is reportedly easy to drive and clinches tightly.



Clip attached to furring holds wallboard

The *Sliding Loc-Clip*, a product of the same manufacturer, is a one-piece bent metal device for holding insulating, acoustical or decorative wallboard to furring. The clip is fixed to a furring strip so that two prongs extend to either side at the front of the strip. Wallboard sheets are slipped onto these prongs, forming an invisible joint over the furring strip. The device is said to effect substantial labor savings and to make for easy aligning after completion of construction. E.G. Building Fasteners Corp., 101 Park Ave., New York 17, N. Y.

Liquid Stainless Steel For Protective Coatings

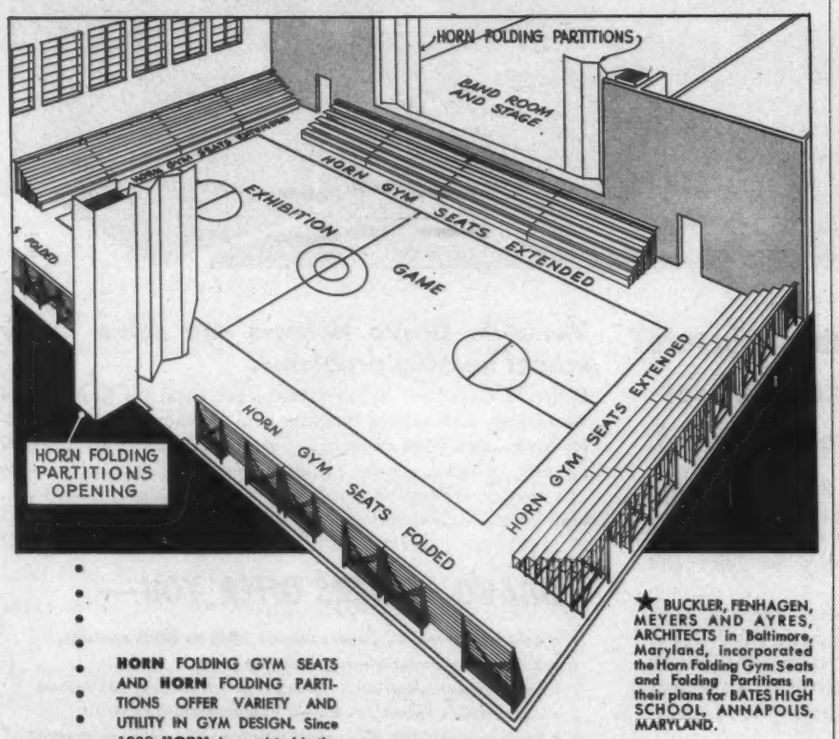
A protective coating consisting of actual stainless steel reduced to microscopically fine flakes and combined with a vinyl plastic binder, *Liquid Stainless Steel* can be sprayed, brushed or dipped on surfaces. As the coating dries, the flakes of metal overlap and interlock, reportedly affording an almost continuous barrier of stainless steel to corrosive materials. Metals, wood, composition board, concrete and brick can all be given much of the permanence of the metal itself, according to the manufacturer. The liquid is quick-drying, tack free within five minutes, and may also be baked. Neither the resin binder nor the steel changes appreciably with age, and the coating has the bluish-grey, non-shiny cast of solid stainless steel. The manufacturer reports that the product has been thoroughly tested both in the field and by testing agencies. Slip-On, Inc., 401 Broadway, New York 13, N. Y.

Carpet Color Kit

Recently introduced for the interior field is a new *Master Color Kit for Carpets*. Containing over 100 different colors, the kit is available for use in the client's home or office, enabling him to select a carpet color and quality directly from a kit no larger than an overnighter. The color "Carpettes" lift easily from their trays for quick comparison with fabric colors. Also included in the kit are 12 carpet swatches presenting the entire line of all-wool, all-nylon and Shagtone Chenille custom floor cover-

(*Continued on page 334*)

HORN FOLDING GYM SEATS
FOLDING PARTITIONS
TAILORED TO YOUR NEEDS



★ BUCKLER, FENHAGEN, MEYERS AND AYRES, ARCHITECTS in Baltimore, Maryland, incorporated the Horn Folding Gym Seats and Folding Partitions in their plans for BATES HIGH SCHOOL, ANNAPOLIS, MARYLAND.

HORN FOLDING GYM SEATS AND **HORN** FOLDING PARTITIONS OFFER VARIETY AND UTILITY IN GYM DESIGN. Since 1909, **HORN,** has assisted in the design of gymnasiums engineered for efficiency and utility. **HORN** Folding Gym Seats offer smooth operation, clean appearance and engineered safety. **HORN** Folding Partitions for openings large or small are custom built to your requirements.

Looking for a STAGE! **HORN** FOLDING STAGES for classrooms, auditoriums, gyms, etc., save time, labor and storage room. *Write for details.*

● FACTORY INSTALLED FOR AN EFFICIENT OPERATION AND SERVICE. WRITE FOR DETAILS

Horn

HORN BROTHERS COMPANY

School Equipment Division

FORT DODGE, IOWA, U.S.A.

Name.....

Address.....

City.....State.....

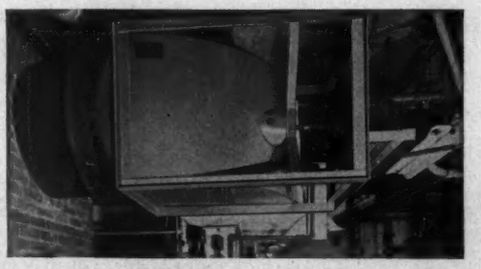
Send information on the following:

☐ Horn Folding Gym Seats
☐ Horn Folding Partitions
☐ Horn Folding Stages
☐ Horn Representatives

Eliminate Tall Chimneys

Use Wing DRAFT INDUCERS

1. Eliminate tall, unsightly and expensive stacks. All that is left is a vent on the discharge.
2. Cut fuel costs. Give higher CO_2's. Less excess air.
3. Smoke reduced or eliminated.
4. Permit increased capacities.



For all boilers from small commercial heating types, up to 100,000 lb./hr. steam generators.

Write for bulletin or submit requirements

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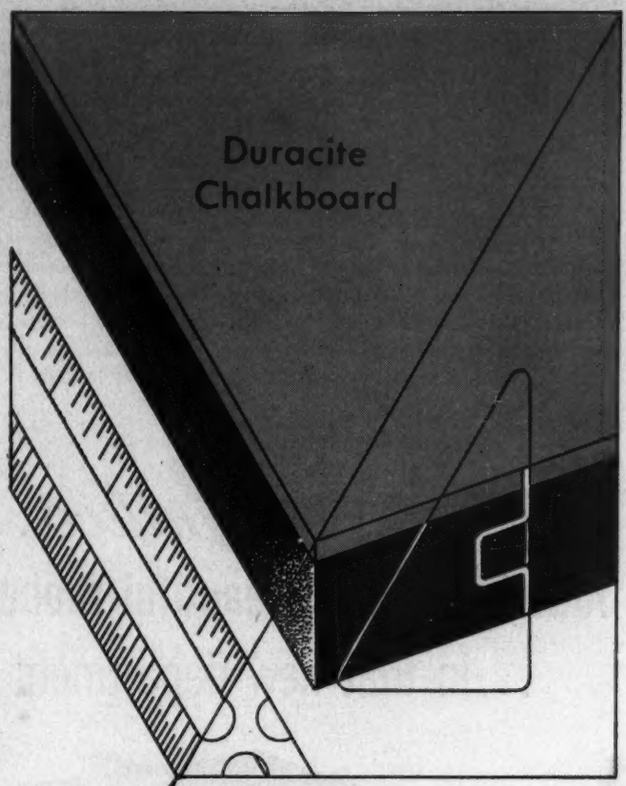
DRAFT INDUCER

L. J. Wing Mfg. Co.
151 Vreeland Mills Rd.
Linden, N.J.
Offices in Principal Cities of U.S. & Can.



The Only ½" Chalkboard

. . . with tongue and groove joints. Neat . . . smooth.

. . . with .007 thick heat applied synthetic plastic with silicon carbide *in suspension thruout.*

CORKBOARDS

Resilient . . . easy thumb-tacking . . . longer wearing. Strongly re-inforced with burlap. Available in Fadeproof Pastel Colors.

Also—Aluminum Trim.

Complete Catalog on request

Claridge EQUIPMENT COMPANY
4610 W. 20th St. • Chicago 50

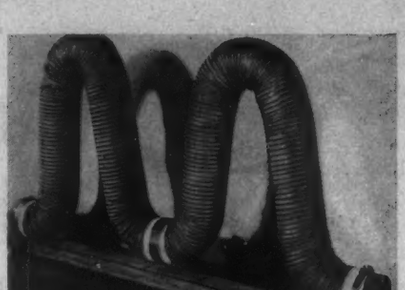
in SWEET'S '52 23e/CL

PRODUCTS
(*Continued from page 332*)

ings. The kit is reported to speed up the delivery time for custom colors in carpets by eliminating the delay of the usual slow method of submitting color samples and waiting for confirming tufts dyed to order. The color number of the "Carpette" is sent to the mill and custom weaving begins immediately. Nye-Wait Co., Inc., Auburn, New York.

Flexible Ducting

Fexflyte, a new durable and flexible ducting for air conditioning and ventilating systems is adaptable to both new construction and existing buildings, and, according to the manufacturer, can be snaked through existing floors and walls with a minimum of constructional alterations. Consisting of a fibre-glass fabric cemented to a continuous steel spring wire helix, bound with fibre-glass cord, and bonded together with a special compound, the ducting can be cut to any desired length. It is said to be flame-proof and resistant to both fungus and mildew. In addition, it is reported to withstand the widest range of temperatures in all climates. The ducting is adaptable to cooling of complicated electrical and electronic equipment as well. A special aluminum coupling is said to make splicing a simple matter. The ducting can reportedly be bent on a radius of one-half its diameter without buckling and with only slightest reduction in its inside diameter. Flexible Tubing Corporation, Guilford, Conn.



Flexible ducting can be snaked through existing floors and walls easily

Put *Amtico* . . .

America's most beautiful rubber flooring

. . . in that new department store

Amtico
RUBBER FLOORING

SAMPLES ON REQUEST

A free box of 4" x 4" samples of Amtico Flooring in standard ⅛" gauge and all 26 stock colors sent, with illustrated literature, on request. Dept. AR-8.

AMERICAN BILTRITE
RUBBER COMPANY
TRENTON 2, NEW JERSEY

Also makers of Famous Biltrite NURON Soles and Rubber Heels

AFFILIATES . . . BILTRITE RUBBER COMPANY, CHELSEA 50, MASS. • AMERICAN TILE & RUBBER CO. TRENTON 2, N.J. • PANTHER-PANCO RUBBER CO., CHELSEA, MASS. • AMERICAN TILE & RUBBER CO. (CANADA) LTD., SHERBROOKE, QUEBEC • PANTHER RUBBER CO. LTD., SHERBROOKE, QUEBEC, CANADA

Sculptured Wallcoverings

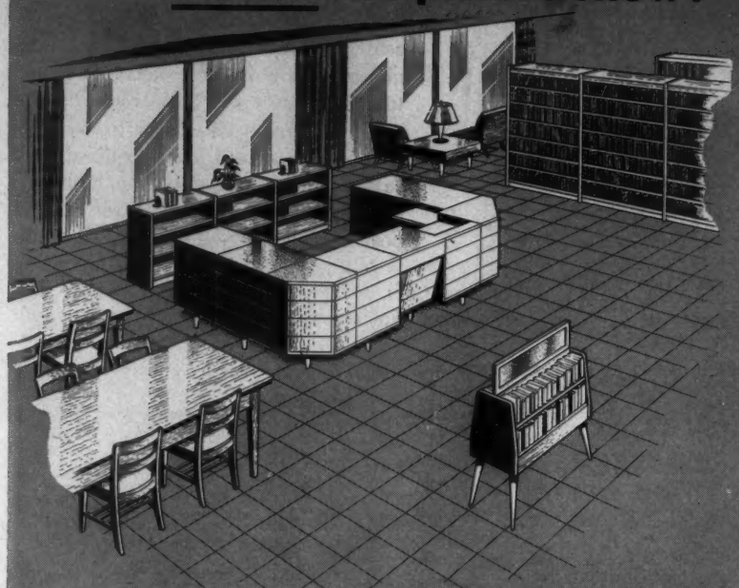
A new line of wallcoverings is now available in a three-dimensional plastic reproduced from sculptured surfaces. The pattern is achieved not by printing but by the play of light and shadow on the textured surface. Available in an off-white color, it can be painted or finished with any wall paint, or for further emphasis on the pattern, glazed or antiqued. The patterns are appropriately named to suit their appearance, such as *Split Bamboo, Herring-Bone, Straw Square, Basket Weave, Notion Two* (a geometric design), *Stone Wall, Matting* and *Woodgrain*. Similar to linoleum in consistency, Sculptured Wallcovering eliminates the necessity of the finishing layer of wall plaster, yet it is said to be hung as easily as any heavy wallpaper. Katzenbach and Warren, Inc., 49 E. 53rd St., New York 22, N. Y.

Vitreous Wall Surfacing

When applied on cinder block, concrete block or plaster, *Cement Enamel* is reported to be a sanitary, washable, non-fading and practically indestructible wall material. Available in a variety of colors and color combinations, the material has been successfully installed in schools, hospitals, research and indus-

(*Continued on page 336*)

what doesn't the picture show?



The picture doesn't show the *sound reasoning* which provided the basis for the functional design of "New Life" Library Furniture.

It shows lots of other things—simplicity of line, charm, harmony of design—but it doesn't show *how* these came about.

From our Catalog L-50 you can find out why there is no "dead space" in a "New Life" charging desk assembly, how a card catalog file can be expanded, and what other advantages exist.

Our field representative can tell you how all units and assemblies are constructed to give long service, and in what other ways Sjöström design and construction benefit *you*.

If you're planning to purchase library furniture, these are *some* of the elements you will want to *investigate carefully*. There are other important elements, too. Request our Catalog L-50. Ask that we have our field representative call. Then you can *properly* analyze, compare, and evaluate, and determine precisely what you want in *your* library furniture.

JOHN E. SJÖSTRÖM COMPANY
1717 N. Tenth Street, Philadelphia 22, Pa.

MANUFACTURERS OF *New Life* LIBRARY FURNITURE

OLSON Conveyors and Subveyors

Solve FOOD and DISH HANDLING PROBLEMS in Schools, Restaurants, Cafeterias, Hospitals

*Photo courtesy Brazosport Independent School District, Freeport, Texas.

OLSON complete systems convey prepared food trays and trays of soiled dishes up, down, and horizontally. Save labor. Speed turnover. Reduce noise and breakage. Save valuable space. Permit use of remote areas for modern centralized kitchens and dish washing systems.

Engineered for the job. Installed by specialists. Used in schools, hotels, restaurants, cafeterias and hospitals, LARGE and small, from coast to coast. Send for literature, case histories, and list of prominent users—TODAY.

SAMUEL OLSON MFG. CO., INC.
2434 Bloomingdale Ave. Chicago 47, Ill.

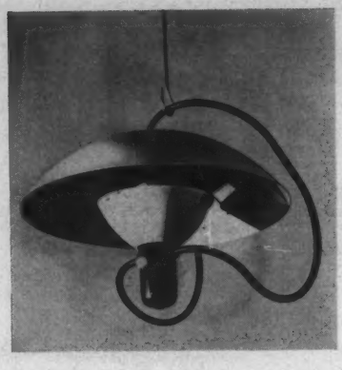
Send literature, list of prominent users, and case histories showing economies effected by OLSON Conveyors and Subveyors.

Individual _____ Title _____
Street _____ Zone ____ State ____
City _____

PRODUCTS

(*Continued from page 334*)

trial buildings, department stores, etc. The rough texture of the surface is said to break up the light, thus eliminating glare, and the extreme hardness of the finish prevents easy marring. Not affected by temperature, it is also said to be alkali and acid fume resisting. Cement Enamel of Michigan, Inc., 3035 E. Grand Blvd., Detroit 2, Mich.



Versatile lamp can be hung from ceiling. Same lamp also may be stood upright

Lighting Fixture

"Stand it up, Pin it up, Hang it up" is the theme of the new *SPH Lamp*, recently displayed at the last Home Furnishings Show in New York. Designed to be used erect on a table, pinned up on a wall or hung up as a center fixture, it is constructed of bent black oxidized steel tubing with a free swiveling bulb cup enabling easy conversion to the desired position. The over-all height of the lamp is 16-in. and the 14-in. aluminum shade

is finished in baked, parchment-toned enamel. Nessen Studio, 5 University Pl., New York, N. Y.

Fungus-Resistant and Odorless Paints

Two new paints to help solve particular needs have been developed by Wilbur and Williams Co.:

• A *Fungus-Ban* copper napthanate dip for application on wood which will be exposed to immersion in water. As indication that the surface has received treatment, the product imparts a green color to wood. Since it is of a non-crystalizing nature, it can be painted over with ordinary or ship bottom paint after 24 hrs. Designed to meet Federal Specifications MIL-W-906 Type 1 or Class A, it affords primary protection against dry rot. The product supplements the manufacturer's other wood-preservative products which include separate items for dimensional control and toxic control.

• An *Odorless Dampcoat Enamel* especially suited to the particular needs of food processing industries. The odorless properties of the paint are said to make it unnecessary to shutdown such industries while painting is in progress. In addition, the paint's resistance to steam

(*Continued on page 338*)

Give ventilation a *quiet lift* with Airlift . . .
(Swartwout duct ventilator)

For duct exhaust where you want to provide unobtrusive (compact profile) ventilators operating at very low noise levels, specify Swartwout Airlift. It's an outstanding success on hospitals, schools, institutions, apartments and industrial buildings. Its effective centrifugal fan wheel runs at low tip speed—has a certified rating. Streamlined fan inlet and oversize outlet opening assure high efficiency with minimum turbulence and friction losses. It is often possible to use smaller size Airlift units than ordinarily specified in this type of ventilator. Made in a wide range of sizes, and capacities from 280 to 32,000 C.F.M. Higher capacities available for special needs. Write for full description in Bulletin 341G.

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

Here Is A Door

That Is MORE Than A Door . . .

Most doors are considered merely as a means of closing a wall opening, permitting passage. But this one type door is so designed and built that it—

- **REDUCES SOUND AND NOISE**
- **RETARDS FIRE SPREAD**
- **MAINTAINS PRIVACY**
- **IS ALWAYS ATTRACTIVE**

VENEERED-SOLID CORE FLUSH DOORS MADE BY HARDWOOD PRODUCTS CORP.

Those solid core flush doors are made to architects' specifications and on order only. The in built quality of conscientious skilled craftsmanship—the strength and accuracy of modern processes in fabrication and finishing—the beauty of skillfully selected veneers make them preferred by the most exacting architect.

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Leading Makers of Fine Veneered Doors for 40 Years

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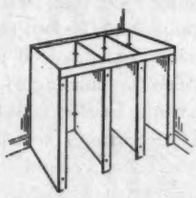
Sales Offices: Chicago, Ill. · New York, N. Y. · San Francisco, Calif.



Toilet partitions

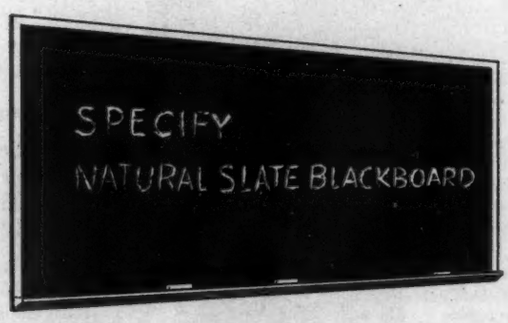
Stair treads

School roofs

Laboratory tables

Natural Slate for many school uses

You'll find new schools and colleges using natural slate in ever increasing quantity today. It's a "natural" for today's buildings, because it means low upkeep, maximum ease of use, and maximum serviceability and length of life. Slate possesses a durability that makes it ideal for blackboards, roofs, stair treads, toilet partitions, laboratory table tops, etc. It's tough, but with an elasticity that makes it resistant to strain, blows and the effect of settlement. See Sweet's $\frac{23e}{NA} + \frac{4c}{ST}$.



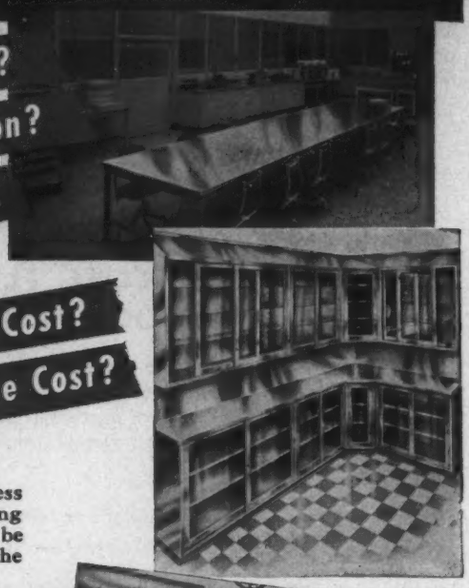
Play Safe with Slate

Easy Seeing Makes Easy Working

NATURAL SLATE BLACKBOARD COMPANY
THE STRUCTURAL SLATE COMPANY
Pen Argyl, Penna.

The Answer is Yes to All 6 Questions

Simplified Planning?
Utmost in Sanitation?
Lifetime Service?
Utility?
Low Installation Cost?
Low Maintenance Cost?



When you specify JUST Line Stainless Steel equipment for any new building or modernization project, you can be sure that your clients will receive the utmost in—

SIMPLIFIED PLANNING—Because JUST Line Stainless Steel equipment is custom built to your specifications, it simplifies planning and meets every individual requirement.

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LIFETIME SERVICE . . . UTILITY—JUST Line engineering and craftsmanship and electrically welded construction combined with the highest quality of materials, assure uninterrupted service at lowest installation and maintenance costs.

MODERN DESIGN—JUST LINE Stainless Steel equipment is the recognized leader in modern design.

JUST Line Stainless Steel Equipment *is ideal for Government and private institutions, laboratories, hospitals, schools and industrial plants.*

FOUR JUST LINE INSTALLATIONS:
The four installations illustrated here show the wide variety of equipment we are able to furnish you: Sterile Laboratories, The Upjohn Co.; Instrument Cabinet, Hines Veterans' Hospital; Sterile Storage Room, Hotel Dieu Hospital; Domestic Science Class Room High School.

Write today for new illustrated Catalog R-3-52, It contains Architects' Specifications, Construction Details, numerous installations and other valuable information.

Just Manufacturing Co.
4610-20 W. 21st Street, Chicago 50, Illinois

PRODUCTS

(*Continued from page 336*)

cleaning, dampness, butter fat and greases, lactic acid and other semi-corrosive properties and conditions is said to suit it especially to food processing plants, dairies, hotels, restaurants, hospitals and other installations faced with similar maintenance problems. The enamel is reported to be fast-drying, non-yellowing, and can be applied over damp or dry, painted or unpainted wood, new plaster or metal. Available in gloss, eggshell or flat finishes. The Wilbur and Williams Co., 130 Lincoln St., Brighton 35, Mass.

New Fireproof Drapery Material

Recently developed by chemists, a new synthetic fiber called *Dynel* is being effectively used for draperies in hotels, passenger ships and other places of public assembly where fire hazards are apt to be present. It is reported that the fabric is self-extinguishing and won't support combustion, due to the fact that vinyl chloride, which comprises 60 per cent of the fiber, stops the burning when the flame is removed. In addition to being practical, Dynel drapes are soft and pleasant to the touch, completely washable and dry quickly. Claimed to be mothproof and mildewproof, they may be used through the summer months or stored in a closet. Textile Fibers Dept., Carbide and Carbon Chemicals Co., Div. of Union Carbide and Carbon Corp., 30 East 42nd St., New York 17, N. Y.

Oil Heaters

Two new series of the *Imperial Fuel Oil Home Heaters* were recently introduced. The "622" and the "722" are both finished in a platinum shade, while the "624" and the "724" will be in a mahogany finish. Both series have radiant doors which may be replaced with an automatic power-air blower. A new 27,000 btu *Trailer Heater* has also been announced. It is claimed that it will heat even the largest trailer homes. Duo-Therm Division, Motor Wheel Corporation, Lansing, Mich.

(*Continued on page 340*)

SERVICISED DEEP LIP SAFETY TREAD *for* SAFETY, APPEARANCE, LONG WEAR

- Easily applied to steel, wood or concrete—old or new.
- Abrasive non-slip surface.
- Reduces Traffic Noise.

● Servicised Deep Lip Safety Treads are made of a tough, resilient rubber compound in which an abrasive aggregate has been securely embedded throughout the wearing surface. Easily applied to any surface—old or new. Deep Lip Safety Tread is ¼" thick by 3" wide, and comes in lengths up to 84" or less. Lip depth 1½". Available in Buff, Gray, Green, Red or Black.

Write for Samples, Prices and Complete Details

SERVICISED PRODUCTS CORP.
6051 W. 65th ST., CHICAGO 38, ILL.

NOW! BY ANY PROCESS!

SHARPER *white or blueprints!*

with the world's finest, largest selling

VENUS
DRAWING PENCILS

- **ACCURATELY GRADED** —in 17 degrees
- **STRONGER**—the lead is *Pressure-Proofed**
- **SMOOTHER**—the lead is *Colloidal* processed*

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Uniform lines in weight and tone. Opaque lines for sharp, clear reproduction. Strong points, smooth in action. No smudge; no ghosts from erasures. There's the right degree for your favorite tracing papers. The result: sharper prints—*by any process!*

TRY Venus on your papers. Then see the print quality. Get Venus *Technical Test Kit* with pencils in the degrees you want . . . . . **FREE!**

LOOK FOR THE GREEN CRACKLED FINISH!

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AMERICAN PENCIL CO., HOBOKEN, N. J.

AMERICAN PENCIL COMPANY
Hoboken, New Jersey
Dept. AR-352

Please send me free Venus *Technical Test Kit* with two Venus Drawing Pencils in these degrees: ( ) ( ).

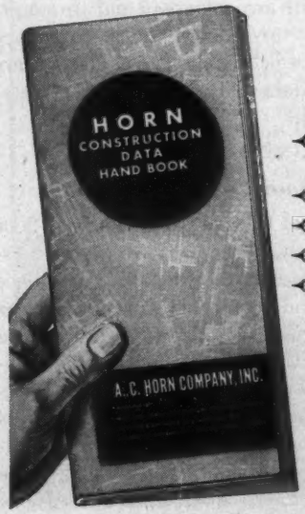
Name.....

Company.....

Street.....

City..... *State*.....

FREE! *This 96-page book...*



in our new edition just out

CONTENTS

- How to solve many construction and maintenance problems
- Construction details
- Material tables
- Weights and measures
- Horn products and methods

Here is a book giving you engineering data and specifications to help you solve many problems of hydrostatic pressure, dampproofing, painting, caulking, roofing and flooring. You may have this reference book with our compliments.

horn

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MANUFACTURERS OF MATERIALS FOR BUILDING MAINTENANCE AND CONSTRUCTION
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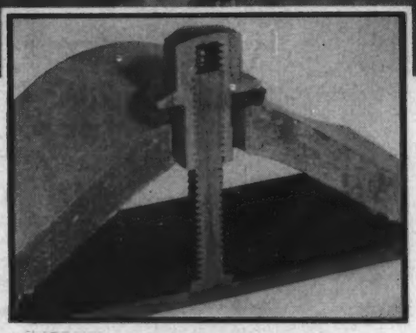
LOS ANGELES • SAN FRANCISCO • HOUSTON • CHICAGO • TORONTO
SUBSIDIARY OF [illegible] CHEMICAL CORPORATION

FOR BETTER INSTALLATION OF CORRUGATED ASBESTOS

Operator end-welding a stud to girt through pre-drilled hole in the corrugated sheet. Split-second welding is done with a press of the trigger of the Nelweld gun.



Sectional view showing collar-nut (integral nut and sealing collar) run down on a Nelson threaded stud, making a permanent watertight seal. Collarnuts are furnished with Neoprene or lead collars, and only one size stud is required.

YOU'LL FIND IMPORTANT ADVANTAGES WITH NELWELD

Several important advantages are gained by installing corrugated asbestos roofing and siding with the time-proved Nelweld method of fastening.

First, Nelweld fasteners provide higher quality finished installation—strong, weatherproof, and with an attractive trim appearance. In addition, the Nelweld method cuts costs by eliminating all interior scaffolding—all fastening being done from the outside or top side of the structure. Elimination of clips, bolts, and other fasteners on the inside surface reduces maintenance costs. Nelweld fasteners minimize stocking problems too, because one size stud meets all requirements.

Full information and Nelweld Engineering Service are available to show the advantages of Nelweld methods as applied to your specific construction problem. Contact your nearest Nelson representative or write Dept. A-1, Lorain, Ohio.

Nelson corrugated asbestos fasteners are distributed nationally by the Philip Carey Mfg. Co. and Johns-Manville . . . Nelson Approved Applicators throughout the country can estimate and install your corrugated roofing and siding with this high quality method . . . Nelweld equipment is readily available for rental or purchase from Authorized Dealers.

Fasten it Better... at Less Cost, with NELWELD

NELSON STUD WELDING

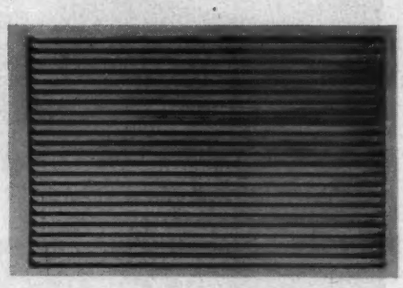
DIVISION OF GREGORY INDUSTRIES, INC., LORAIN, OHIO

PRODUCTS

(*Continued from page 338*)

Door and Partition Grille

A heavy-gauge steel grille with louvers double-locked on the side to prevent rattles when doors are slammed has been added to the *Airfoil* line. The louvers are, in addition, V-shaped to prevent seeing through the grille. Construction is described as especially sturdy. The



Steel grille has double-locked louvers

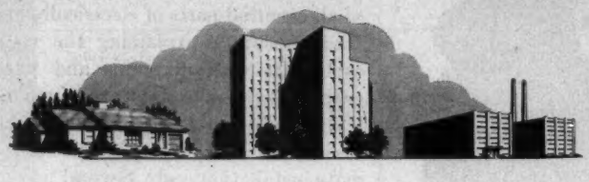
grilles are coated with a prime finish to blend with any color door and are adaptable to any door width. Auxiliary frames, which simplify installation, are also available. Titus Mfg. Corp., Waterloo, Iowa.

New Floor Care Method

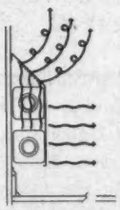
Claimed to save many hours of floor maintenance a month, *Multi-Clean Asphalt Tile Preserver* is applied only once a year and is reported to be anti-slip as well as to impart a beautifully clean surface. Used successfully in the cafeteria of a large Mid-Western food processing firm, the only care required is daily sweeping and damp-mopping, followed by polishing with a rotary type floor machine. Once a week a steel wool disk is used under the machine to remove surface scuff marks. The steel wool treatment is also claimed to rejuvenate and burnish the preserver, bringing out the original color of the tile. Use of the new sealer is said to have eliminated the necessity of waxing the floor, saving both time and material. Multi-Clean Products, Inc., 2227 Ford Parkway, St. Paul, Minn.

VULCAN

DESIGN for
COMFORTABLE LIVING and WORKING

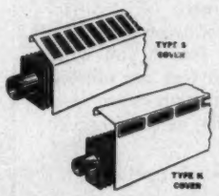


The practical simplicity of Vulcan Fin Tube Radiation makes your design job easier for: HOMES, SCHOOLS, CHURCHES, HOSPITALS, INSTITUTIONS, COMMERCIAL AND INDUSTRIAL buildings.



Radiant *plus* Convection heat assures healthful, draft-free comfort. . . . even temperatures from floor to ceiling.

Vulcan's attractive cover designs are engineered for maximum heating efficiency *and* modern decorative simplicity. Send for illustrated Bulletins No. 60 and No. 125 on Vulcan Linovector (commercial); Radi-Vector (residential), Bulletin 53A.



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Complete information in Sweets' Architectural File.

Over 25 years a Leader in Fin-tube Radiation

The VULCAN RADIATOR COMPANY

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Ozalid in Canada—Hughes Owens Co. Ltd., Montreal

LITERATURE

(*Continued from page 220*)

Electric Stairways

Buyer's Guide — Electric Stairways. Brochure contains a detailed description of all essential parts of electrically operated stairways, explaining the use of each part with diagrams and photographs. Available sizes are given and budget price data applications are discussed, showing examples of approximate installation costs. Several pages of the booklet are devoted to arrangements and layouts, illustrated by detailed drawings. Relative space requirements are presented, and typical examples of existing electric stairway installations are included, illustrating their suitability to office buildings, banks, stores, air terminals and railroad terminals. 32 pp., illus. Elevator Div., Westinghouse Electric Corp., Jersey City, N. J.*

Stainless Steel

Making the Most of Stainless Steels in the (1) *Textile Industry*, (2) *Pulp and Paper Industry*, (3) *Dairy Industry* and (4) *Brewing Industry.* Four separate brochures describing the many uses of stainless steel in various industries. Information on types of stainless steel includes composition, use, relative cost of material and other significant data. Booklets tell how to properly clean and maintain the material to the best advantage. Textile book has 32 pp., illus.; others, 20 pp., illus. Crucible Steel Co. of America, Henry W. Oliver Bldg., P. O. Box 88, Pittsburgh 30, Pa.

Heating and Air Conditioning Control

Controls (*Catalog F-1753-3*). Catalog gives information on thermostats, motor operated valves and accessories for heating, ventilating, and air conditioning. Included in the engineering information is an explanation of terminology. A useful reference for architects and engineers when selecting control equipment. Tables give ratio selection data and temperature regulator specifications. Catalog available on request. 44 pp., illus. Barber-Colman Co., General Offices, Rockford, Ill.*

(*Continued on page 344*)

* *Other product information in Sweet's File, 1952.*

3 Ways to Better Building

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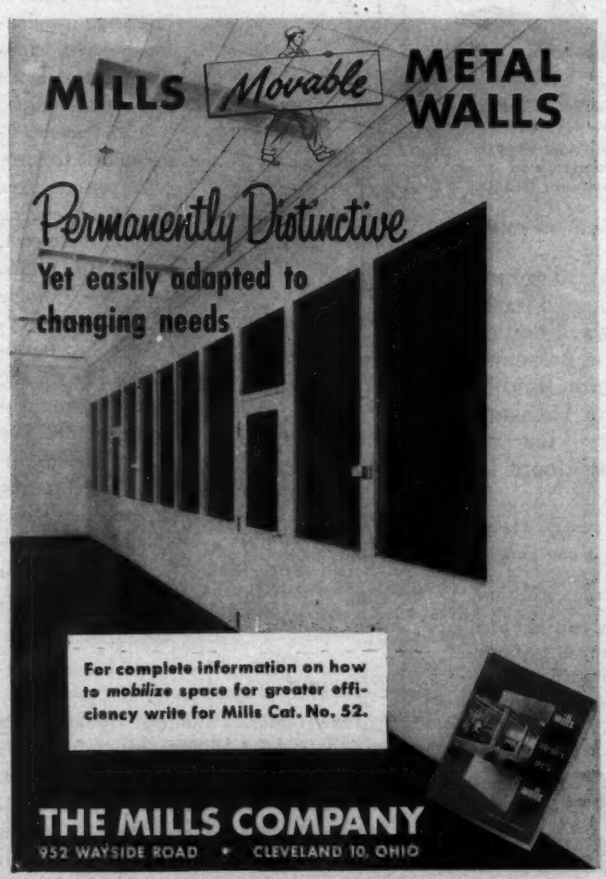
CORRUFORM

ROOF DECK

GRANCO
STEEL PRODUCTS CO.
(Subsidiary of Granite City Steel Co.)
Granite City, Illinois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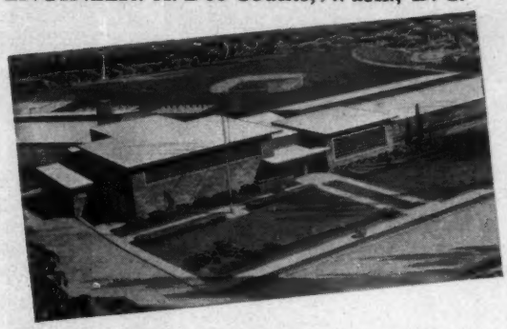
Permanently Distinctive
Yet easily adapted to changing needs
For complete information on how to mobilize space for greater efficiency write for Mills Cat. No. 52.
THE MILLS COMPANY
952 WAYSIDE ROAD • CLEVELAND 10, OHIO

TEMPERATURE CONTROL *Notes*

by BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS

SUBJECT: Oakridge School, Arlington, Virginia.

AUTHORS: ARCHITECTS: Allen J. Dickey and John Graham, Jr., Arlington, Va. ENGINEER: A. Dee Counts, Wash., D. C.



HEATING CONTRACTOR: W. J. Baumbach, Inc., Arlington, Va.

PROJECT: *To install a simple, cost-saving heating and ventilating system* . . . Illustrations at the left show, top: Barber-Colman Motor-Operated Valve as installed on hot water supply to each school room; shown below: Barber-Colman Motor-Operated valve on the steam supply to converter in boiler room.

REMARKS: Water temperature, from converter supplied by the oil-fired steam boiler, is varied automatically by a Barber-Colman Outdoor Reset Thermostat. Individual room temperature is kept constant and overruns avoided by use of Barber-Colman Anticipating Thermostats and Motor-Operated Valves.

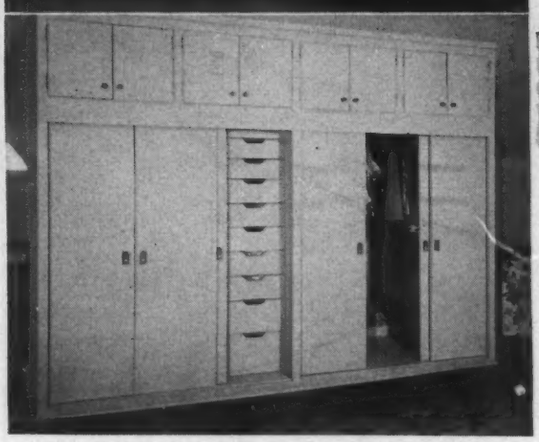
BARBER COLMAN

BARBER-COLMAN COMPANY
1232 ROCK ST., ROCKFORD, ILLINOIS

Richards-Wilcox

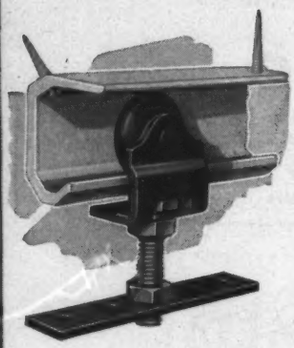
VANISHING DOOR

HARDWARE



Save space

Save trouble



SILVER STREAK
R-W No. 1019
Vanishing Door
Hangers and
Aluminum Track

The trend is to small homes today. And with this trend comes the necessity of utilizing every available inch of space. That's where the Richards-Wilcox Vanishing Door Hardware comes in. Specially designed for thin wall construction, noiseless operation and easy installation, they help make a room livable from wall to wall. R-W Silver Streak Vanishing Door Hangers and Aluminum Track are constructed for flexibility—for use on single or parallel wardrobe doors, or for sliding doors in any room.

Check these important points!

- Four types of hangers to accommodate various size doors and building requirements.
- Adapted to thin walls to save space and reduce building costs.
- No interference with room furnishings or decorations.
- Tight fit of door to floor avoids drafts, loss of heat.
- Adapted to single sliding and parallel sliding house doors.

• • •

For more information, contact our nearest office or request one of our illustrated folders describing in detail the uses and advantages of SILVER STREAK.

1880 1952
OVER 72 YEARS

Richards-Wilcox Mfg. Co.
AURORA, ILLINOIS, U. S. A. • Branches in all principal cities

LITERATURE

(*Continued from page 342*)

Window Shades for Schools

Correctly Controlled Daylight. Booklet points out the uses of darkening and translucent shades, indicating with photographs how light control may be obtained in the classroom. Details of mounting on both wood frames and metal sash are given and examples of all types — including skylight shading — are given. There are actual samples of the cloth included in the booklet, showing color and texture. Complete specifications are contained in the brochure on fabric, rollers, slats, cord and pulleys. 20 pp., illus. Luther O. Draper Shade Co., Spiceland, Ind.

School Hardware

Corbin School Hardware (*Catalog K69*). Brochure describes "900" Series Unit Locks, presenting drawings of lock operations for dormitory, entrance, office or public toilet use. A description of door closers is given, including applications, operation and finishes. Information is also included on mortise locks and latches, extension bolts, butt hinges, door pulls, master-keying and miscellaneous hardware. Automatic exit fixtures are explained, giving safety advantages for entrance doors and doors leading from corridors, auditorium, cafeteria, gymnasium and other areas. 4 pp., illus.

Corbin Cylindrical Locks (*Catalog K70*). Contains information on heavy-duty cylindrical lock for schools, hospitals, apartments, office buildings, public buildings, residences and other applications. Dimensions are given and the 13 most used functions for various installations are discussed. Outstanding features are listed, photographic details presented and available finishes described. 4 pp., illus. P. & F. Corbin Division, The American Hardware Corp., New Britain, Conn.

Plywood

The *Weldwood Catalog*. Booklet lists various uses of Weldwood, giving both colored and black and white illustrations of exterior and interior applications. Specifications are included along with a

(*Continued on page 346*)

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distinctive cloth wall coverings

• Fab-Rik-O-Na combines decorative beauty with rugged texture ... for unlimited decorator uses ... in homes, offices, hotels, public buildings.

• Applied in the same manner as wall paper, these fine cloth coverings are made finished with colors keyed to modern decorating trends ... or unfinished for individual painting or lacquering. In both forms, Fab-Rik-O-Na coverings give vibrant modernity that's in perfect taste.

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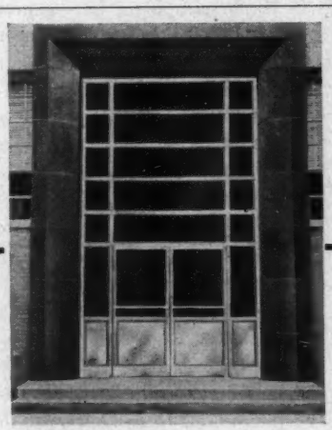

West End School, N. J., Architect: J. Mancuso

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Specified by Leading Architects for:

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Send for new 1952 Catalogs: "Alumiline" Store Front Construction and "Extrud-A-Line" Entrances

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4.6 SQ. FT. E.D.R. PER LINEAL FT.

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1100 BTU . . . the most remarkable achievement in baseboard radiation . . . and it's no surprise that only Brown Bayce Heet can offer it. 1100 BTU . . . the result of aggressive research in baseboard heating by the pioneer in the field — Brown Bayce Heat. 1100 BTU . . . smartest styling . . . no streaked walls . . . many other exclusive advantages . . . Brown Bayce Heat — 1100 BTU.

*Architects Note— There is no "or equal" for Brown Bayce Heat — 1100 BTU.

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This remarkable 1100 BTU rating is made possible by the exclusive new fin design. Note how the diagonally opposed tips of each fin are folded down. Note how the entire heating element, fins and tubes IS TILTED to allow more efficient air circulation . . . no other baseboard has this remarkable feature . . . no other baseboard approaches 1100 BTU.

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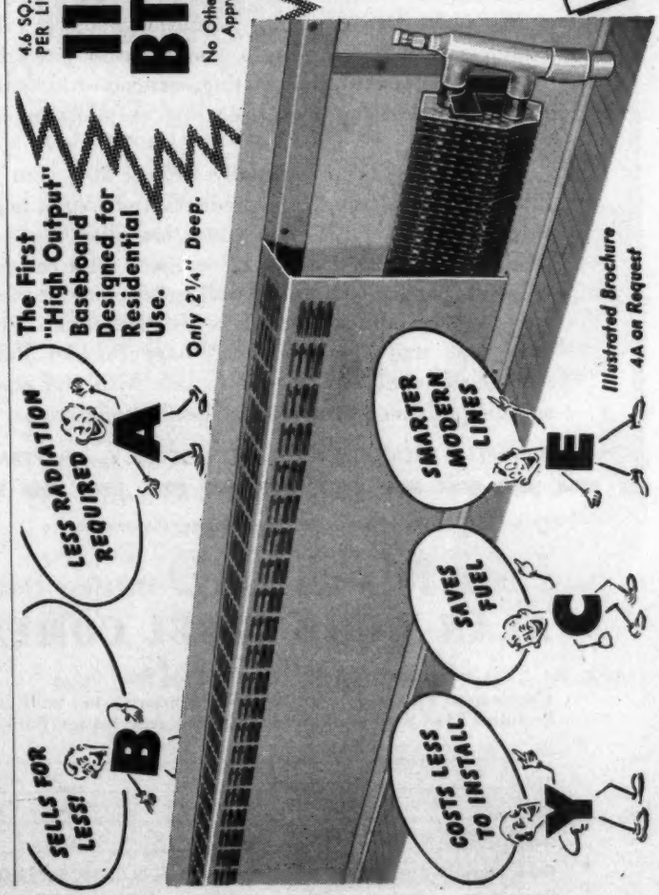
Only 2¼" Deep.



Illustrated Brochure 4A on Request

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Cuts Your Material Costs
Puts New Beauty in Your Designs

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We make PERMACLAD by diffusion-welding a layer of stainless steel *inseparably* to a mild carbon steel backing. *Result:* PERMACLAD has the lasting, corrosion-resistant beauty of solid stainless and the cost-cutting, easy-forming qualities of mild steel.

The stainless layer is usually 10% or 20%, but may be more or less if desired. Also, reduction of weight is possible through the use of A.W. DYNALLOY, low-alloy, high-strength steel as a backing in place of ordinary mild carbon steel.

Doors, panels, escalators, wall panels, and interiors of all kinds can be fabricated easily with PERMACLAD. For technical data write for our free, 8-page Booklet P-88. Our engineering staff will be glad to talk with you about any specific problem and make installation suggestions.

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Other Products: A.W. ALGRIP Abrasive Floor Plate • A.W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

LITERATURE

(*Continued from page 344*)

description of the many finishes that may be obtained, some of which are African Mahogany, Birch, American Elm, Idaho Knotty Pine, White Oak, Sliced Walnut and Korina. Installation data is given on Plankweld, and descriptions of exterior Weldwood are included for building construction, outdoor signs and furniture, railroad use, aircraft, boats and others. Decorative products and laminated specialties are discussed, including Micarta and Kalistron, and a list of adhesives and finishing materials with list prices is included. 43 pp., illus. United States Plywood Corp., Weldwood Bldg., 55 West 44th St., New York 18, N. Y.*

Glass Fibre Insulation Material

(1) *Ultralite, the Long Glass Fibre Insulation;* (2) *Ultralite Duct Insulations, Thermal and Acoustical.* The first of these pamphlets lists general information about the manufacturer's product. Composition, facings, sizes, performance characteristics, handling and application properties, and suggested applications are all listed. The second pamphlet deals in detail with the product's particular application for insulation of ducts. Two kinds of the material are furnished for this purpose; duct insulation, a wrap-around thermal insulation for application to the exterior of ducts, and duct liner, an acoustical insulation for duct interiors. Facings are described, specifications given, and information on application is furnished. 6 pp., 16 pp., both illus. Gustin-Bacon Mfg. Co., 210 W. 10th St., Kansas City, Mo.*

LITERATURE REQUESTED

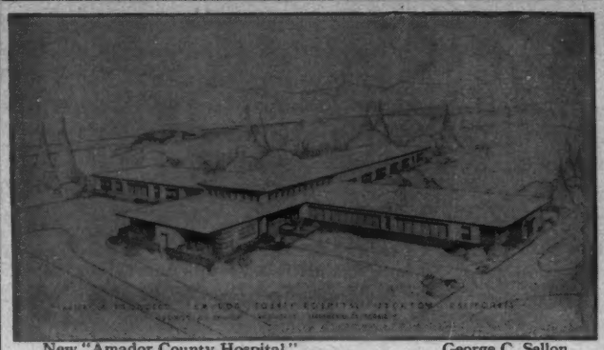
The following individuals and firms request manufacturer's literature:

Calvin H. Bowden, Architect, 137 So. Eighth St., Salina, Kansas

H. P. Conesa Associates, Architects and Engineers, Comercia Y Trujillo, Ponce, Puerto Rico

Lyle P. Howard, 132 E. Main St., Kresge Bldg., Ottumwa, Ia.

Spencer Zeigen, student and draftsman, 3249 Sansom St., Philadelphia 4, Pa.



New "Amador County Hospital"
Jackson, California

George C. Sellon
Architect

Electric Radiant Heat by famous HEATSUM CABLE*

Clean, non-streaking, safe, dependable heat that means great savings in building maintenance, insurance, and re-decorating costs. Heatsum Cable operates at amazing low temperature, reduces fire hazard to a minimum, and eliminates fuel storage problems. Specify Heatsum Cable for EVERY heating job.

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BRITE-LITE Areawalls provide the *extra* feature of a brighter, lighter, more cheerful basement.

Brite-Lite's heavy galvanized coating has an enduring, sparkling surface, and reflects maximum light into the basement. Scientifically engineered corrugations increase light reflection.

A thick galvanized coating, over a heavy-duty, copper-bearing steel, resists rust and corrosion. And the sturdy steel construction is immune to cracking from spring thaws, which cause brick or cement walls to crumble and crack.

BRITE-LITE Super Corrugated-Straight... for use where space is at a premium because of driveways or narrow yards.

BRITE-LITE Super Corrugated-Round... reflects greatest possible light into basements, provides easy access to windows.

For low-cost housing ... BRITE-LITE Standard; width and projection adjustable.

BRITE-LITE AREAWALLS • STEEL-STRONG POSTS • TEL-O-POST

For complete information write Brainard Steel Division, Dept. AA-3, Griswold St., Warren, O.

Brainard
SHARONSTEEL
STEEL DIVISION
SHARON STEEL CORPORATION

WARREN, OHIO

WASHINGTON (*Cont. from p. 38*)

based on these types, indicate that these warehouses are economical to construct. They can be erected quickly, thereby permitting early use for stockpiling purposes."

Building Program Reviewed

Reviewing the fiscal 1951 building program, the report showed that the PBS engaged in comparatively little activity constructionwise. It placed 39 projects under construction with a cost limitation in the aggregate of $34 million. It also had 39 projects (value, $96.6 million) in the design stage. Drawings were completed for 113 additional projects (value, $31 million) which will be undertaken in future building programs.

A total of 2,473 contracts for repair, alteration and improvement of government-owned buildings located outside the District of Columbia was awarded. Cost of the work was covered by an appropriation of $10 million. Much work was performed on a reimbursable basis in buildings leased for use by various government agencies.

GSA operates, maintains and protects government-owned and leased space, principally office structures. It also furnishes related space services such as moving, alterations and construction of special facilities. The scope of its building-management program in fiscal 1951, including activities under direct appropriations, embraced the handling of 84,884,000 square feet.

Fowler Explains NPA Effort To Gage Controls to Supply

A statement by Henry H. Fowler, new administrator of the National Production Authority, has provided considerable background on contemplated moves of his agency in the construction field.

His explanations were given to a New York Congressional delegation which called a meeting to investigate the growing unemployment situation among construction workers in the New York area.

It soon became apparent, following this session, that the problems discussed were not peculiar to New York alone; that NPA and the Defense Production Administration, headed by Manly Fleischmann, were receiving similar complaints on unemployment in

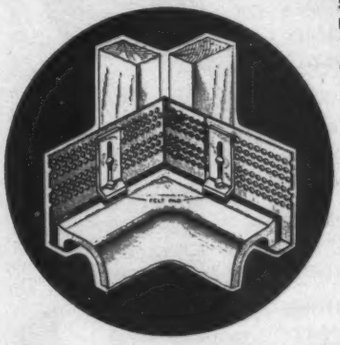
(*Continued on page 350*)

At the Senate Banking & Currency Committee's recent roundtable on mortgage money outlook in housing: John M. Dickerman, N.A.H.B. assistant executive vice president; Sen. Burnet Maybank, committee chairman; Emanuel M. Spiegel, N.A.H.B. first vice president; Alan E. Brockbank, N.A.H.B. president; Sen. John Sparkman

The New Statler's

1275 watertight bath tub installations . . .

Statler Center, Los Angeles, California
Holabird, Root & Burgee, Architects
William B. Tabler, Associate Architect
Mehring & Hanson, Los Angeles, Plumbing Contractors



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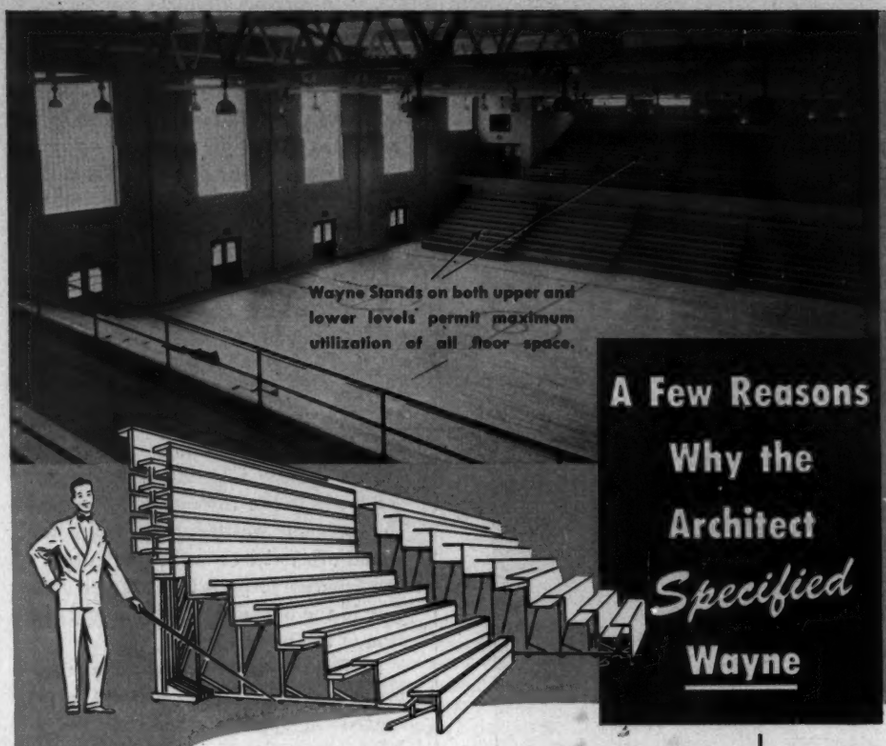

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WASHINGTON (Cont. from p. 348)

the building trades from several other heavily populated centers in the country. The pinch of the materials control program was beginning to make itself felt in terms of laid-off building workers.

Non-Defense Areas Suffer

Large centers that had few defense contracts — in some instances none — to take up the slack were showing signs of being hard hit by the materials cutback as commercial construction slacked off. And more serious times threatened.

Administrator Fowler explained to the meeting in the Senate Office Building that his office and DPA were trying to draft new policies to meet the complaints "to the extent that it is consistent with our obligations which the Congress has conferred upon us to see to it that the defense program is executed."

Basic Policies Outlined

In more specific terms Mr. Fowler outlined the following elements of projected plans:

1. The NPA, he said, has decided to adopt as a governing principle and policy this approach: allocations made for a construction project in any quarter, be it defense, industrial or commercial, will be continued to completion. The original allotment will be made for the entire project and scheduled out by quarters, leaving some flexibility to change the amounts for subsequent quarters.

Except in event of some drastic change in the international situation, NPA will follow through so as to avoid the economic waste and hardships that would otherwise occur in the halting of construction projects that are well under way in the physical sense of actual erection of the building.

2. The use of foreign or salvage steel for new commercial projects will be permitted on specific application to the NPA where the applicant can demonstrate that the project for which the steel will be used will not involve any substantial amount of critical copper and aluminum. This policy of permitting recourse to foreign or salvage steel will have to be handled on a case basis.

3. While no general relaxation of the rules prohibiting unlimited commercial construction seems to be possible under the present supply and requirements condition, in the near future NPA will announce that certain particular and specially defined classes of commercial construction which have a relatively high degree of essentiality or public necessity will be treated separately from general commercial construction. An allocation program of limited proportions will be inaugurated to get some of these essential projects under way, particularly in areas where the construction industry has no other substantial base.

4. NPA will entertain applications for particular types of commercial projects in the next few months and determine which of those that are the subject of application will be given a contingent permit under the construction regulation to proceed when and if materials become sufficiently available to permit allotment by the NPA to the particular project.

"We would hope, by inaugurating this contingent permit system," said Mr. Fowler, "to create a substantial block of reserve projects approved for priority treatment which would be in a

(Continued on page 352)

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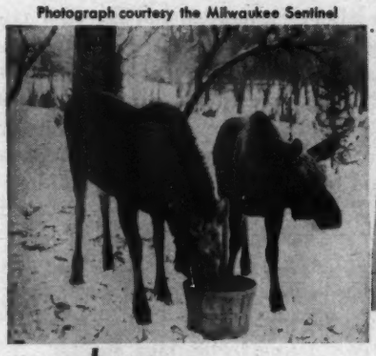

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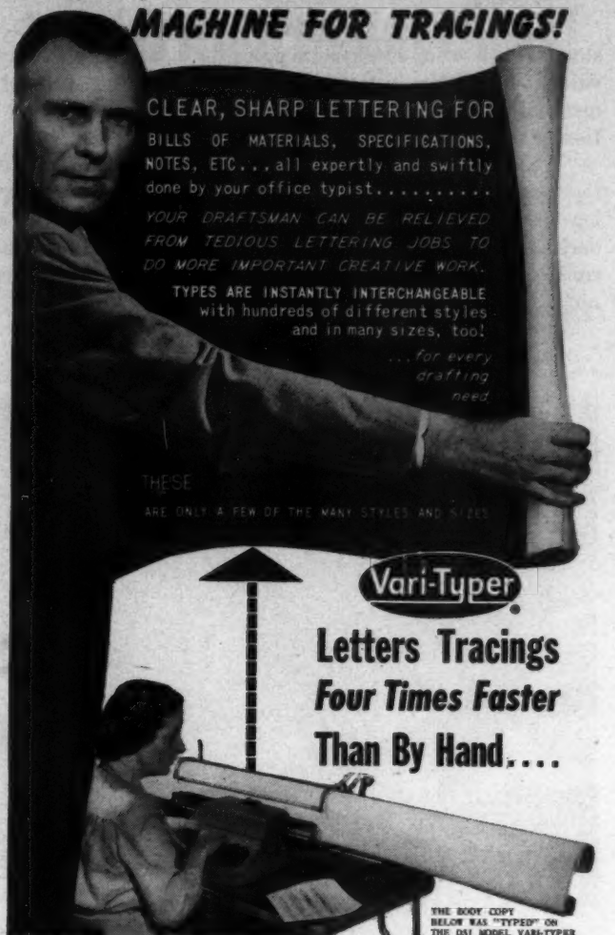
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WASHINGTON (*Cont. from p. 350*)

state of engineering readiness to proceed without any delay just as soon as the material situation permitted an allocation to them.

"We are undertaking this because of representations to us that the long time lag that necessarily falls between the decision to build a facility and actual construction — time required for planning, site acquisition and preparation, financing and other essential preliminaries — can only be eliminated as factors of delay by some such device."

5. The NPA, as the claimant agency for commercial construction, will make an early claim for an allocation of critical materials for new commercial construction in large urban areas where there is no alternative construction of defense character.

How Advisers Fit In

In a later letter to Senator Herbert H. Lehman of New York, Mr. Fowler answered charges that NPA has failed to consult with the Construction Industry Advisory Committee in the issuance of its regulations applicable to construction. These charges had been raised at the Congressional conference, with one building trades representative branding the industry advisory committee meetings as "a farce and a joke."

The Why of Two Meetings

Mr. Fowler admitted there might have been "previous errors" along these lines, but wrote that he had taken steps to correct them if they had existed. In a memorandum to his staff members handling construction matters, he made reference to his statement to the Industry Advisory Committee at its January meeting. This reads in part:

"It serves no useful purpose to complete down to the dotting of an 'i' and the crossing of a 't' a form of regulation or order and then call the committee in to advise on that regulation.

After a decent first draft, which the primary moving bureau or division has developed, is available, it then, in my judgment, is most fruitful to consult the Advisory Committee and get their notions and ideas before the proposed order has gone through the complicated clearance procedures in the agencies that permit other agencies to consider our regulations and comment on them and permit internal clearance."

It was on this basis that Fowler called for two meetings of the IAC on construction, instead of just one, after the new order had been put in final shape.

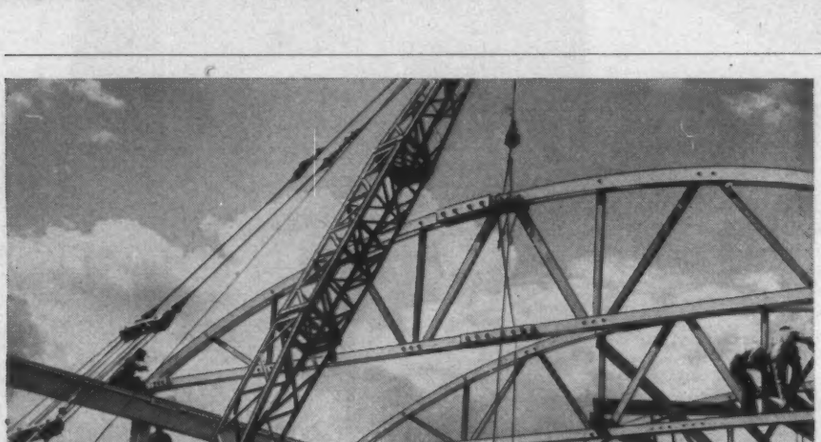
Fear Allocations May Force Substandard House Building

Many industry spokesmen have expressed the fear that the federal government's allocation of controlled materials to home construction will result not only in a serious deficiency in total housing volume but will force construction of units so small that they will not serve the shelter function adequately.

While the housing agency was drafting its new regulations aimed at stretching the allotted controlled materials as far as possible, this industry reaction was brought to the fore by H. R. Northup, executive vice president of the National Retail Lumber Dealers Association.

In asking for a fair redistribution of controlled materials turned back to the

(*Continued on page 354*)



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(*Cont. from page 352*)

Defense Production Administration by the defense agencies, Mr. Northup raised the question of a new danger in the reduction of unit size.

"The amount of steel, aluminum, and copper set aside for housing construction has been cut back to the point where home building may be limited to the construction of units so small that few families will find them suitable," he said.

ON THE CALENDAR

Mar. 1–Mar. 22: Eliel Saarinen Memorial Exhibition — Walker Art Center, 1710 Lyndale Avenue S., Minneapolis.

Mar. 3–5: Semiannual Meeting, Board of Directors, American Institute of Architects — Washington, D. C.

Mar. 3–24: L'Art Sacre, an exhibition of French modern religious art and architecture — The Art Alliance, 251 S. 18th St., Philadelphia 3, Pa.

Mar. 5–8: 38th Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit.

Mar. 8–12: Regional Meeting and Exhibit, American Association of School Administrators — Los Angeles.

Mar. 11: De Divina Proportione; the importance of proportion in art, especially architecture; seventh of 12 evenings sponsored by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 11–14: Fifth National Plastics Exposition, arranged by the Society of the Plastics Industry — Convention Hall, Philadelphia.

Mar. 17–Apr. 4: Gold Medal Exhibit, Mural Painting, Architectural League of New York — League building, 115 E. 40th St., New York City.

Mar. 22–Apr. 6: Second Chicago International Trade Fair — Navy Pier, Chicago.

Mar. 26: New Poets, introduced by William Carlos Williams; eighth of 12 evenings sponsored by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 26–30: National Convention and Exhibit, American Institute of Decorators — Waldorf-Astoria Hotel, New York City.

Mar. 26–June 1: Exhibition of playground designed for the United Nations by Isamu Noguchi and Julian Whittlesey — Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 26–June 1: Design Trends; a comparison of current design in china, glassware, chairs, kitchen utensils, etc., with objects designed about 20 years ago — Museum of Modern Art, 11 W. 53rd St., New York City.

Mar. 31–May 5. Gropius Architectural Exhibition — The Art Alliance, 212 S. 18th St., Philadelphia.

Apr. 4–May 18: Cezanne: paintings, watercolors and drawings; an international loan exhibition organized in cooperation with the Art Institute of Chicago — The Metropolitan Museum of Art, Fifth Ave. at 82nd St., New York City.

Apr. 5: Design Seminar, Indiana Society of Architects — University of Notre Dame, South Bend, Ind.

Apr. 5–9: Regional Meeting and Exhibit, American Association of School Administrators — Boston.

(*Continued on page 356*)

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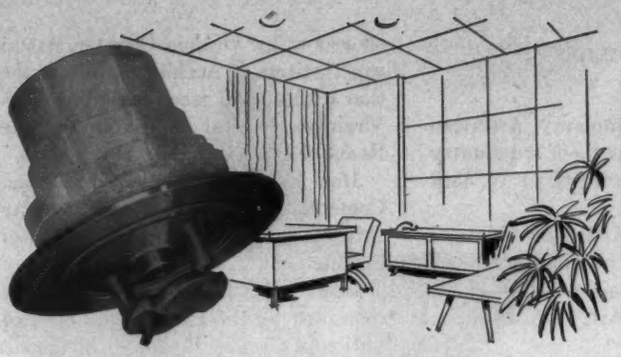

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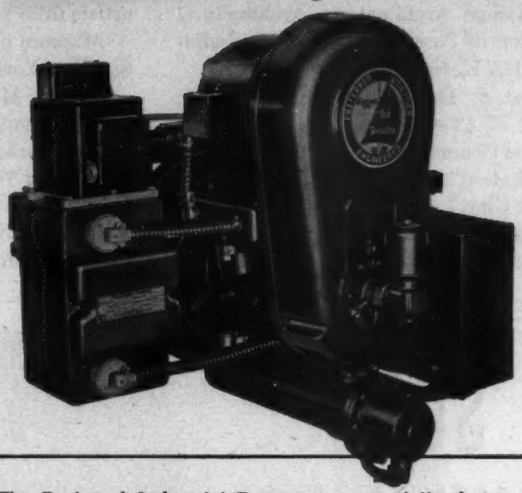

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THE RECORD REPORTS

(*Continued from page 354*)

Apr. 7–May 2: Gold Medal Exhibit, Landscape Architecture, Architectural League of New York — League building, 115 E. 40th St., New York City.

Apr. 8: The Film Approach to Art; ninth of 12 evenings presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Apr. 10–June 22: American Group Show; large showing of painting and sculpture by contemporary American artists from various parts of the country — Museum of Modern Art, 11 W. 53rd St., New York City.

Apr. 22: Modern Artists on Artists of the Past; tenth of 12 evenings presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

Apr. 24–25: Architects' Seminar on Hospital Planning and Construction, co-sponsored by Virginia Chapter, American Institute of Architects, in conjunction with annual meeting of Carolinas-Virginias Hospital Association — Hotel Roanoke, Roanoke, Va.

May 1–2: Middle Atlantic Regional Conference, American Institute of Architects — Bellevue-Stratford Hotel, Philadelphia.

May 3–11: New England Home Show, sponsored by the Home Builders Association of Greater Boston — Mechanics Building, Boston.

May 5–16: British Industries Fair — Earls Court and Olympia, London, Castle Bromwich, Birmingham, England.

May 6: A Concert of Rarely Performed French Music; 11th of 12 evenings presented by the Junior Council — Auditorium, Museum of Modern Art, 11 W. 53rd St., New York City.

May 6–9: Fourth International Lighting Exposition and Conference — Cleveland Municipal Auditorium, Cleveland.

May 7–July 6: New Talent; fourth in series of exhibitions of work by artists who have not had major shows in New York — Museum of Modern Art, 11 W. 53rd St., New York City.

May 19–24: First Annual International Churchman's Exposition — Chicago National Amphitheater, Chicago.

June 24–27: 84th Annual Convention, the American Institute of Architects — Waldorf-Astoria Hotel, New York City.

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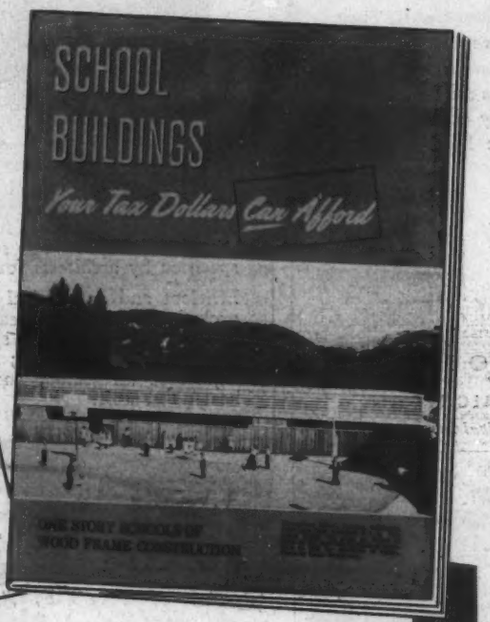

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OFFICE NOTES

Offices Opened

• Frank Wynkoop, F.A.I.A., announces the opening of new main offices at Seventh and Dolores Sts., Carmel, Cal.

• William H. Bingham, Civil Engineer, has opened new offices at 3982 Peachtree Rd. N.E., Atlanta, Ga.

• Joseph H. Heuer, structural engineer, has moved to larger offices across Northwest Highway from his previous headquarters in Park Ridge, Ill. The mail address is P.O. Box 567, Park Ridge, Ill.

New Firms, Firm Changes

• Carter E. Hewitt, A.I.A., has announced the formation of a partnership with Arthur C. Bastian, A.I.A., for the general practice of architecture and related engineering under the firm name

(*Continued on page 358*)

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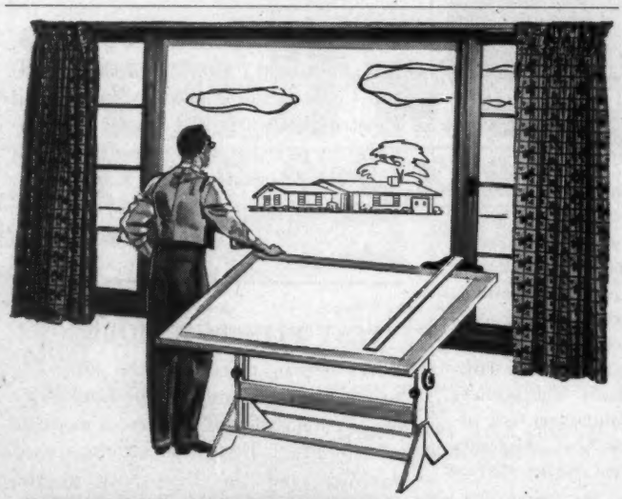

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THE DICKS-PONTIUS COMPANY
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THE RECORD REPORTS

(*Cont. from p. 356*)

of Hewitt-Bastian, Architects. Offices are at 302 First National Bank Bldg., Peoria, Ill.

• L. Morgan Yost, A.I.A., and David Barrow, A.I.A., have announced the consolidation of their offices as a partnership for the general practice of architecture. Their offices are at 419 Richmond Rd., Kenilworth, Ill.

Julian G. Everett, William F. H. Purcell and Robert H. Hose, new Dreyfuss partners

• Three new partners, all of them architects, have been named by Henry Dreyfuss from associates in his industrial design organization. They are Julian G. Everett, Robert H. Hose, and William F. H. Purcell.

• Formation of the new architectural firm of Lundstrum, Blass, Gerhardt and Associates, Inc., with offices at 53 W. Jackson Blvd., Chicago, has been announced.

Officers of the corporation are: John E. Lundstrum, W.S.E., president; Roy B. Blass, A.I.A., secretary; and Paul Gerhardt Jr., F.A.I.A., for 23 years city architect of Chicago, treasurer.

• Alexander Berger, consulting engineer, has announced formation of the Hamilton Construction Company for general construction work. Mr. Berger will continue to practice as a consulting engineer. His offices are at 155 E. 42nd St., New York City. Mr. Berger was for-

(*Continued on page 360*)

South Side Junior High School, Kalamazoo, Michigan *

Architects—Louis C. Kingscott and Associates

* Planners for this beautiful new school made a wise decision—called a Hillyard floor expert (Hillyard Maintaineer) for advice on floors while building was in the blue print stage. The Maintaineer, schooled to work hand in hand with architects, made his survey, prepared a plan to assure protection to all floors throughout the building, (even to specifications for the marking of the new gym floor). Now in daily use, the new school follows labor-saving Hillyard recommendations for a lifetime of beauty.

Tough, glossy, non-skid Hillyard floor finishes specialized for wood, asphalt, rubber, cement, terrazzo, will give YOU planned protection for your new floor installations. Save you labor costs during construction. Save your clients future maintenance. You'll welcome Hillyard's easier methods. The services of a Hillyard Maintaineer are offered Architects without obligation on any job, large or small.

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You can depend on his help to get the job done "on schedule."

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"TEST PITS IS A HOLE"

We are in receipt of the following provocative communication from Wallace P. Beardsley of Auburn, a member of the State Board of Examiners of Architects of the University of the State of New York.

The Editor:

You might like to publish the following enlightening excerpt from the State Board Examination, as submitted by a candidate:

"Test pits is a hole dug in the ground larger enough for a man to work in, and hand up samples of the earth as digs down. They required shoring and more space, take longer and cost more. May be difficult to due in some cases at building line of adjacent structure."

Sincerely yours,

Wallace P. Beardsley

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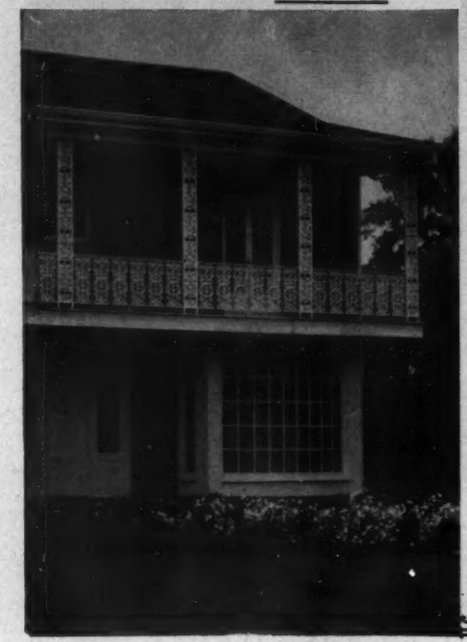
ORNAMENTAL IRONWORK

is at its best in Modern Architectural Designing



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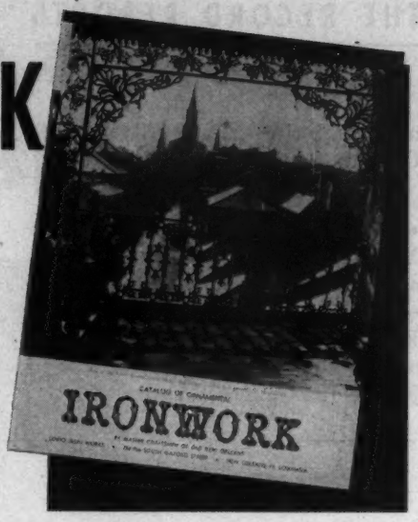

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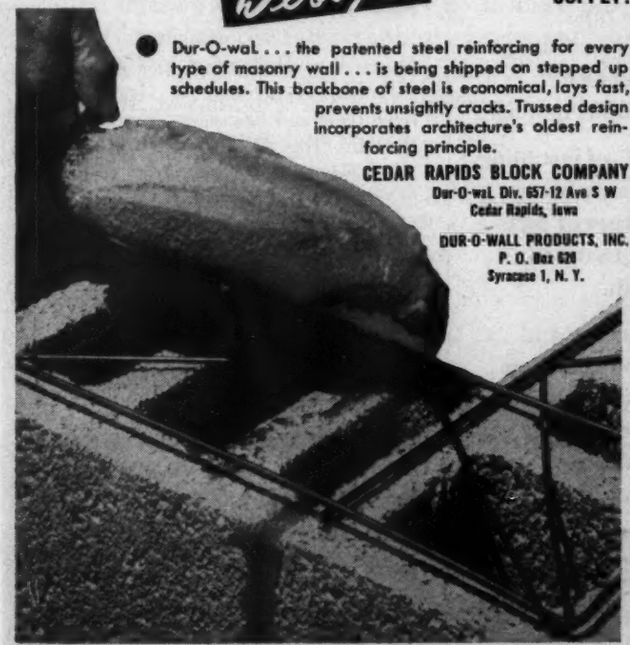

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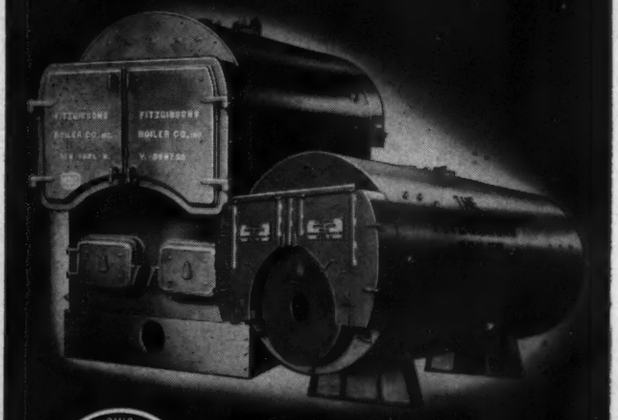

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THE RECORD REPORTS

(*Continued from page 358*)

merly executive engineer with Blitman Construction Corp.

• Reisner and Urbahn, Architects, 654 Madison Ave., New York City, have announced the admission to partnership of Richard M. Brayton and John S. Burrows Jr. Mr. Brayton had practiced architecture in Poughkeepsie before joining Reisner and Urbahn in 1949.

Richard M. Brayton

John S. Burroughs

Mr. Burrows, who became affiliated with the firm in 1950, had practiced in New York City.

New Addresses

The following new addresses have been announced:

George Blumenauer, Architect, 1012 Baltimore, Box 2425, Kansas City 13, Mo.

Gerhard W. Brandhorst, Architect, 3332 Kyle Ave. N., Minneapolis 22, Minn.

David H. Horn, Architect, and Marshall D. Mortland, Architect, Architects Building, 1256 Fulton, Fresno 21, Cal.

Lyle P. Howard, Architect, 219 W. 4th St., Ottumwa, Ia.

Sidney J. Lee, Architect, 2324 E. 2nd St., North Little Rock, Ark.

Everett E. Parks, Architect, 206 W. 4th St., Rm. 225, Spurgeon Building, Santa Ana, Cal.

Temple Phinney, Architect, 1705 N. Field, Dallas, Tex.

A. C. Runzler, Architect, 1208 N. Fuller Ave., Hollywood 46, Cal.

Smith, Hynchman & Grylls, Inc., Architects and Engineers, Empire State Building, Rm. 4522, New York 1, N. Y.

F. Edward Tormey Jr., Architect, 2127 Maryland Ave., Baltimore 18, Md.

Luther E. Warner, Architect, 424 Dinwiddie St., Portsmouth, Va.

ELECTIONS APPOINTMENTS

A.I.A. Groups Elect

• Thomas Cooper of Raleigh, N. C., has been elected president of the North Carolina Chapter of the American Institute of Architects for the coming year.

Other officers are: Eccles Everhart, High Point, N. C. — vice president;

(*Continued on page 362*)

Duriron resists practically every industrial corrosive in use today. *This resistance is as thick as the pipe wall.* This means no leakage or costly replacement caused by corrosion damage.

The labor cost of installing Duriron is the same as that for other types of pipe —and it's a cost that will never occur again.

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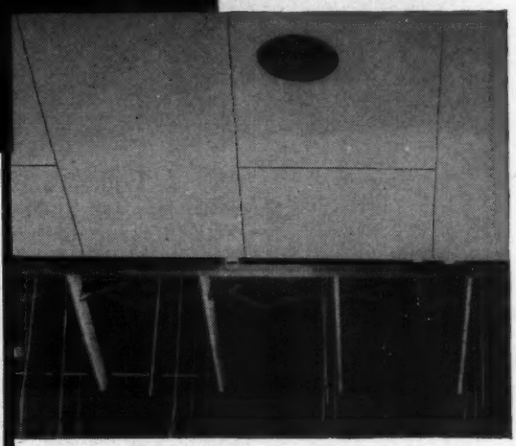
BAILEY JUNIOR HIGH SCHOOL REBUILDS—
USING FIRESTOP BESTWALL®

Bailey Junior High School at Jackson, Miss., scene of the recent fire.

Smoked flooring is visible above a portion of the FIRESTOP BESTWALL *ceiling—a solid incombustible backing for any surface treatment desired.*



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ACOUSTICAL TILE INSULATION FIBERBOARD

 (*Continued from page 360*)

Robert Clemmer, Hickory, N. C. — treasurer; Edward Loewenstein, Greensboro, N. C. — secretary.

• Stayton Nunn, former Rice Institute professor of architecture and for the past five years coordinating architect for the Houston Independent School District, has been elected president of the Houston Chapter, A.I.A. He succeeds G. Herbert Cowell.

Harold E. Calhoun is first vice president; William B. Morgan — second vice president; Arne G. Engberg — secretary; Milton Foy Martin — treasurer; John F. Staub — director.

• Charles E. Fry has been installed as president of the Southern California Chapter of the A.I.A.

Also installed for 1952 terms were: Henry L. Wright — vice president; C. Day Woodford — secretary (reelected); Robert L. Thomas — treasurer.

Southern California A.I.A. new president Charles E. Fry with national A.I.A. chief Glenn Stanton and the chapter's retiring president, John J. Landon

Directors are: Kenneth Johnson (three years); Kemper Nomland (two years); William Glenn Balch (one year). The retiring president, John Landon, also was named a director.

• The Western Michigan Chapter of the A.I.A. has elected Elmer J. Manson of Lansing as its 1952 president.

Other 1952 officers: Charles O'Bryan — vice president; Richard G. Snyder — secretary-treasurer; James K. Haveman — director. Christian Stekefee continues in the second year of his two-year term as director.

• John W. Bomberger of Modesto will head the Central Valley (Cal.) Chapter of the A.I.A. this year.

Other officers are: Nicholas Tomich — vice president; Albert B. Thomas — secretary; and Gordon Stafford, director. All are of Sacramento. Ted deWolf, Stockton, was named treasurer; and Silvio Barovetto, Sacramento, was designated as alternate representative to the California Council of Architects.

• New officers of the Texas Society of Architects are Herbert M. Tatum, Dallas, president, and Albert S. Goleman, Houston, vice president. Jack M. Corgan of Dallas was appointed secretary-treasurer by the T.S.A. Directors.

Groupe Américain Elects

Charles Butler has been named president of the "Groupe Américain of the Société des Architectes Diplômes par le Gouvernement Française."

Other officers elected for 1952 are: Lewis G. Adams — vice president: Charles Rieger — secretary-treasurer.

On the Board of Trustees are Julian

(*Continued on page 364*)

A new Flooring Tile of Unusual Beauty and Outstanding Performance

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INTRODUCING the most beautifully colored resilient flooring tile ever made—and the most versatile for installation purposes—AZROCK's *new* VINA-LUX! Its vinyl resin—asbestos composition makes possible many advantages over ordinary types of flooring. VINA-LUX gives you—

BEAUTIFUL, RICH COLORS unsurpassed for clarity and accuracy. The whole range of VINA-LUX colors from its lustrous black to its clean, bright white is the interior designer's dream. You can really build attractive interiors when you use VINA-LUX on the floor.

GREATER INSTALL-ABILITY over a wider variety of sub-floors than any other resilient flooring material. Use it either over wood or concrete sub-floors, on or below grade. VINA-LUX has exceptional structural strength, density and flexibility.

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GREASE RESISTANCE UNEXCELLED in the flooring field. VINA-LUX is not damaged by most commonly used petroleum solvents or food fats.

EXCEPTIONAL WEAR RESISTANCE that means extra years of service. Tough, durable VINA-LUX stands up like iron under the heaviest traffic.

Vina-Lux —designed and built to do a better flooring job in every way—is available *now*. For detailed literature and sample tiles, write to:

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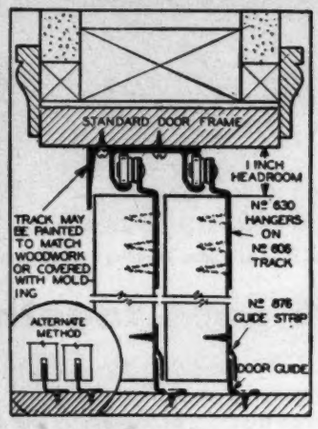
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Sec. 18D in Architects' File
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(*Continued from page 362*)

Clarence Levi, retiring president; Lawrence Grant White; Leopold Arnaud; Lucien C. David; Everett V. Meeks; Myron Dassett.

Architect Named to N.I.A.L.

Clarence Clark Zantzinger, F.A.I.A., was among 14 new members elected last month to the National Institute of Arts and Letters. Life membership is limited to 250.

Mr. Zantzinger, a former vice president of the A.I.A., is senior member of the architectural firm of Zantzinger and Borie of Philadelphia.

Also elected to the Institute's Department of Art were: Edmond Amateis, sculptor, of Brewster, N. Y.; Peter Dalton, sculptor, of New York City; Katherine Lane, sculptor, of New York City; and Henry Schnakenberg, painter, of Newtown, Conn.

Army Moves District Engineers

Col. Philip R. Garges, since 1948 deputy to the engineer-in-chief, Far East Command, Tokyo, became district engineer at Buffalo, N. Y., on February 15.

Col. Herman W. Schull Jr., whom Colonel Garges succeeds, will become district engineer at Jacksonville, Fla.

Industrial Designers Elect

Stewart Pike of Philadelphia was elected national president of the Industrial Designers Institute at a recent meeting of the Board of Directors.

Other officers elected were: Robert L. Gruen of New York — vice president; Henry Hagert of Philadelphia — secretary; Kurt Versen of Englewood, N. J. — treasurer.

Elected to the Board of Trustees were: Paul MacAlister of Chicago; Frank Gianninoto, Belle Kogan, Gordon Obrig and Tom Lamb of New York; and Donald Laudenslager and William Bowers of Philadelphia. Dan Jensen of Philadel-

(*Continued on page 366*)

In this shell-concrete roof, each scallop serves as a beam, permitting a 42' cantilever over spectator stands.

Look how it goes together . . .

Although the specific gravity of concrete is comparable to aluminum, the U.S. annually uses many more tons of concrete than of all iron, steel, lead, zinc, copper, aluminum and other metals, all brick, lumber, tile and glass combined.

Equally remarkable, concrete is poured in many batches, each composed of innumerable particles of aggregate and cement. Yet architects and engineers depend on it to produce homogeneous structures, *which it does, provided all batches have been properly and completely mixed.*

This is why the ready-mixed concrete industry sets exacting standards for mixer design, and certifies to you that truck mixers and agitators, built to those standards, have the proper design, capacity, drum speed and mixing action and the accuracy of water control required to produce a homogeneous concrete of uniform strength.

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These member manufacturers comply with Bureau standards:

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CHAIN BELT COMPANY, Milwaukee, Wis.
CONCRETE TRANSPORT MIXER CO., St. Louis, Mo.
THE JAEGER MACHINE COMPANY, Columbus, Ohio
THE T. L. SMITH COMPANY, Milwaukee, Wis.
WORTHINGTON PUMP & MACHINERY CORP., Dunellen, N.J.

ARCHITECTS IN FASHION

At least one segment of that world outside the profession so assiduously wooed in the public relations programs shows signs of architectural awareness — of one kind or another.

Not only does an architect receive an award from a leading California fashion organization (see page 370), but recent issues of two major fashion magazines have found copy in the field.

The most impressive evidence is in the February 15 issue of *Vogue*, which has as one of its major features an article by Lawrence Grant White, head of McKim, Mead & White. The piece, which is accompanied by a full-page photograph of the "handsome, laconic" Mr. White, is entitled "Observations on the Proper Dress for Young Gentlemen" — a dissertation originally penned, as Mr. White explains, half in persiflage for, and received with jeers by, his three sons.

The second instance follows the more usual tack of noticing the architecture and leaving out the architects. *Glamour*, in its lead-off editorial for the March issue, cites the successful operating procedure of Shoppers' World at Framingham, Mass., (ARCHITECTURAL RECORD, November 1951, pages 12–13) the new shopping center which was much in the architectural news when it opened last fall.

One of several Recreation Buildings, San Francisco Playgrounds
Wm. G. Merchant, Architect • Ellison & King, Structural Engineers
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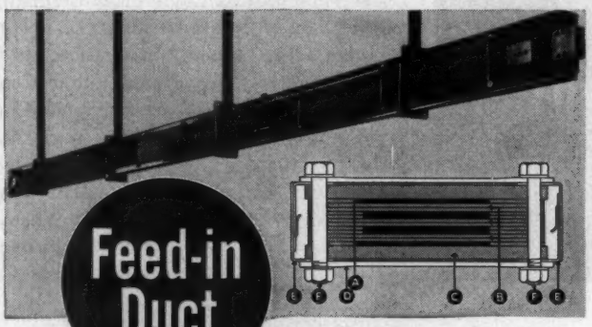

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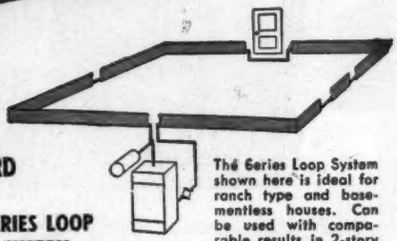

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(*Continued from page 364*)

phia, Bob Goldberg and Gerald Johnson of New York were elected as advisers at large.

Szekely Heads A.S.H.V.E.

Ernest Szekely, president of the Bayley Blower Company, Milwaukee, Wis., has been elected 1952 president of the American Society of Heating and Ventilating Engineers.

Other officers elected at the Society's annual meeting, were: Reg F. Taylor, consulting engineer, Houston, Tex. — first vice president; L. N. Hunter, vice president of research, National Radiator Company, Johnstown, Pa. — second vice president; J. Donald Kroeker, consulting engineer, Portland, Ore. — treasurer.

Mr. Szekely succeeds Lauren E. Seeley, dean of the College of Technology and director of the Engineering Experiment Station, University of New Hampshire.

Consulting Engineers Elect

John F. Hennessy of Syska & Hennessy, Inc., has been reelected president of the New York Association of Consulting Engineers for a second term.

Other officers reelected were: Burnside R. Value of Stevenson, Value and Knecht — vice president; W. Donald Christie — secretary; and Harry H. Bond — treasurer.

Elected to the Executive Committee, which also includes the officers, were Leland Edward of Edward and Hjorth; V. L. Falotico of V. L. Falotico & Associates; and Mathew Hiller.

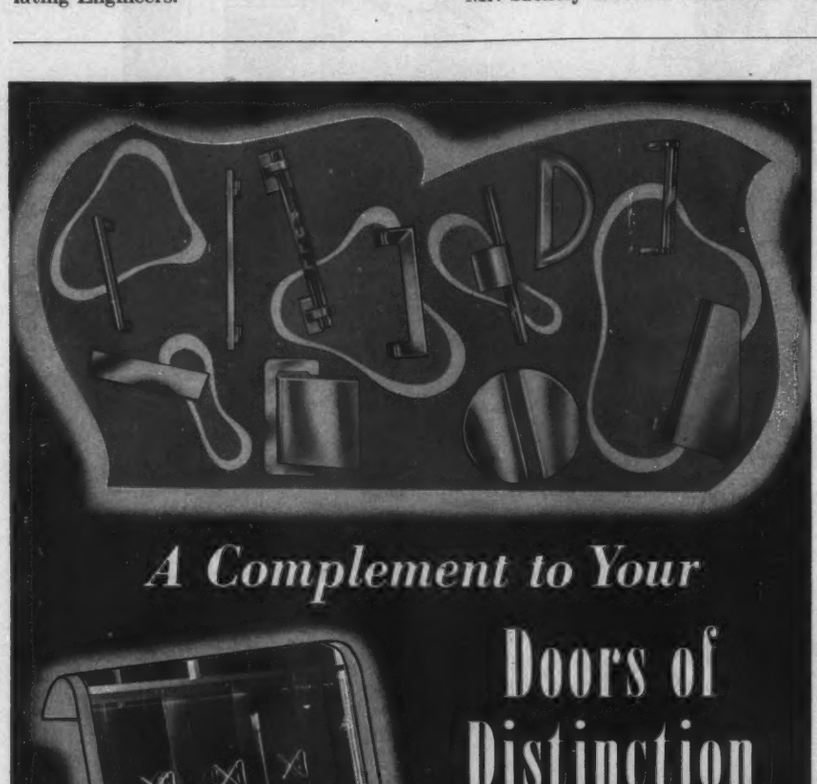
O'Donnell Heads Constructors

J. J. O'Donnell, personnel and labor relations manager for the Lummus Company, New York, has been elected president of the National Constructors Association, an organization composed of firms engaged in construction and engineering of chemical plants, steel mills and petroleum refineries.

Additional officers and committee chairmen for 1952, announced last month by the Association, include: C. D. Haxby, Rust Engineering Company, Pittsburgh — vice president; L. T. Gardiner, The Fluor Corporation, Ltd., Los Angeles — chairman, Labor Committee; J. F. O'Neill, Chemical Construction Corporation, New York, and R. C. Siciliano, Procon Incorporated, Chicago — vice chairman, Labor Committee; W. Q. Ashley, Foster Wheeler Corporation, New York — chairman,

(*Continued on page 368*)

National Constructors Association officers: S. F. Spangler, E. D. Hoekstra, C. B. Whyte, J. J. O'Donnell, C. D. Haxby, T. C. Williams



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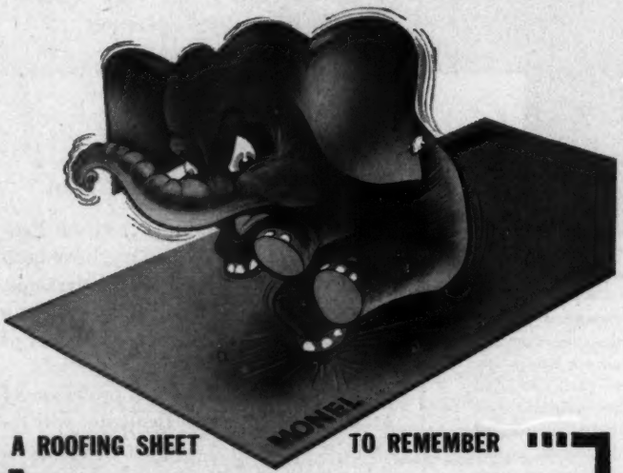

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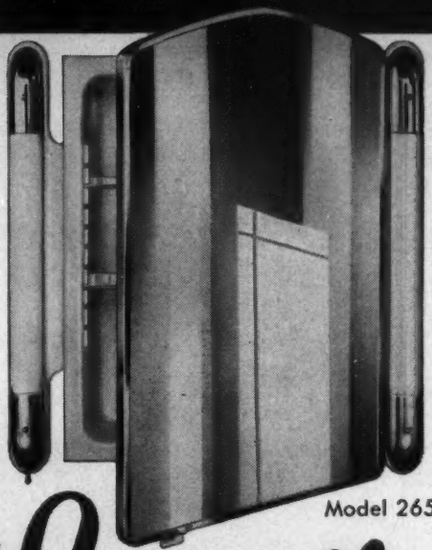

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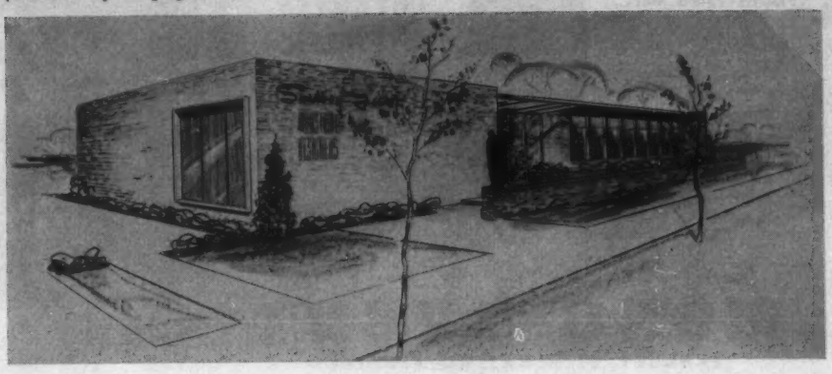
THE RECORD REPORTS

(*Continued from page 366*)

New headquarters for Sundberg-Ferar, industrial designers, in Royal Oak, Mich., were designed for minimum use of steel. The bearing wall is set in cement block running the entire length of the building; rafters are supported directly by window mullions; and roof construction, entirely of wood, is butterfly-type. Design was by Sundberg-Ferar in collaboration with Gaylord Watts



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ELECTIONS (*Continued*)

Foreign Committee; and F. R. Griffin, Koppers Company, Inc., Pittsburgh — chairman, Safety Committee.

Plastics Engineers Elect

William O. Bracken, Hercules Powder Company, Philadelphia, is the new president of the Society of Plastics Engineers.

Also elected at the recent annual meeting in Chicago were: Walter Oelman, Standard Molding Corporation, Dayton — vice president; Don F. Hoffman, Evans-Winter-Hebb, Inc., Detroit — treasurer; and John LaBelle, Koppers Company — secretary.

AWARDS

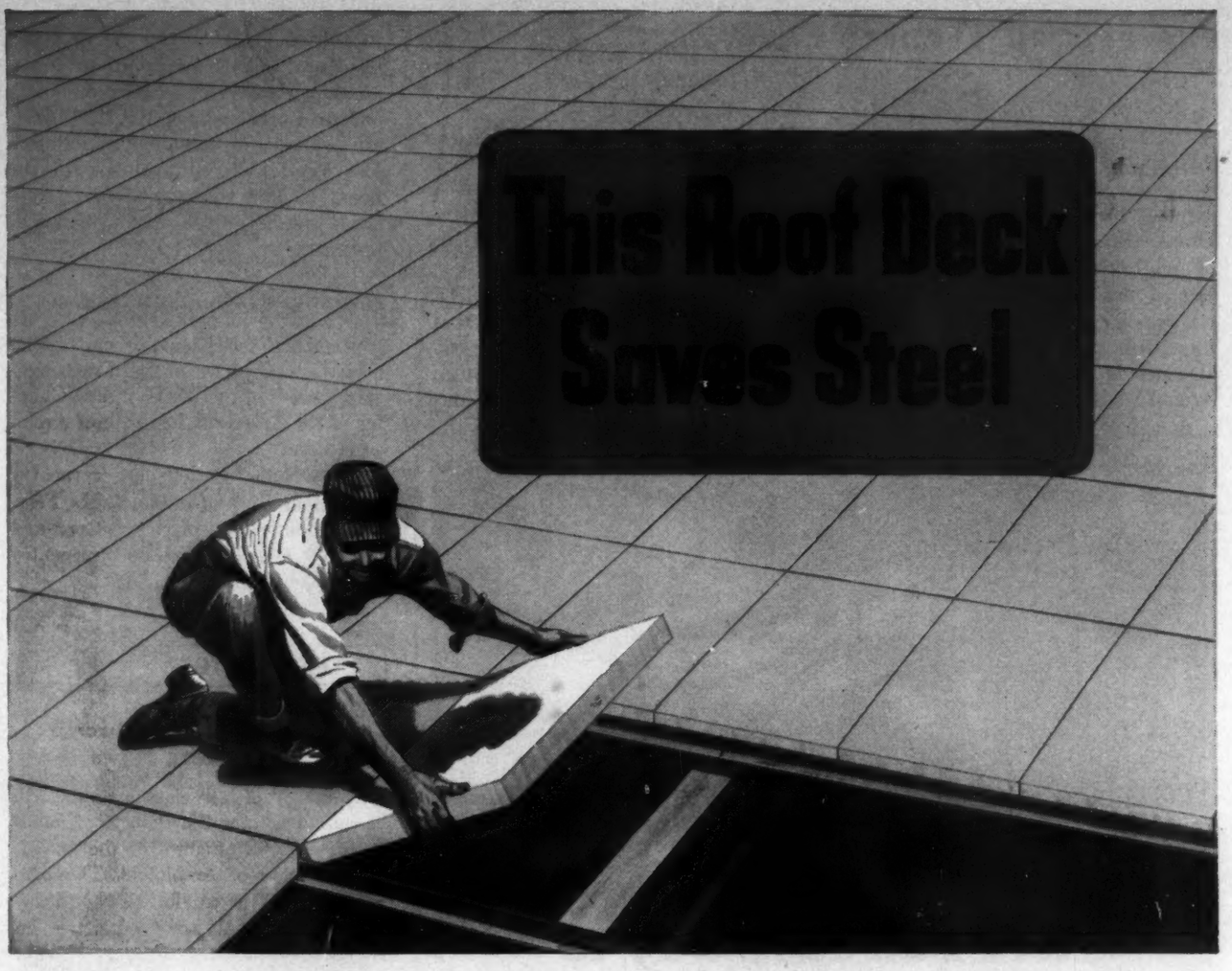
Brunner Scholarships Given

Huson T. Jackson and Addison Erdman, both of New York City, have been granted two 1952 Brunner Scholarships, awarded by the Brunner Scholarship Committee of the New York Chapter of the American Institute of Architects.

Mr. Jackson, assistant professor of architecture at Pratt Institute, will receive a grant of $2400 for his project, "A Survey of Important Architectural and City Planning Works in the New York Region." He plans to compile an authoritative and carefully selected list of existing architectural and city planning monuments of Greater New York from its origin to the present.

Mr. Erdman will receive a grant of $1000 for his projected volume "An Investigation of Modern Hospital Planning and Architecture throughout the United States and Canada." This book will supplement and bring up to date the mass of knowledge on hospital planning which has accumulated since the

(*Continued on page 370*)



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 (*Continued from page 368*)

publication in 1946 of Mr. Erdman's volume "Hospital Planning."

Brunner Scholarships are awarded annually by the New York Chapter for advanced study in some specialized field of architectural investigation. The subject of the study may be chosen by the candidate. The scholarships were founded in 1940 by the late Emma B. Brunner in memory of her husband, Arnold W. Brunner, A.I.A.

Fashion Creators Honor Neutra

Members of the California Fashion Creators, Los Angeles, Calif., presented their award for distinguished achievement in 1951 in the building industry to Architect Richard Neutra.

The citation read: "Mr. Neutra has exercised vast influence in architectural trends for more than a quarter of a century. As a pioneer of modern architecture his talents have found their greatest expression in residential and business structures which have removed the conventional barriers between buildings and their surroundings. His Northwestern Mutual Fire Assurance Building in Los Angeles is representative of the finest modern design and the 'California' feeling in the building industry today."

Building Craftsmen Cited

Members of the building crafts honored this year by the annual Craftsmanship Awards of the West Virginia Chapter of the American Institute of Architects were:

Green Hall of Parkersburg, carpentry and cabinetwork; Herman L. L. Feldhaus, Charleston, marble setter; and Ralph G. O'Dell, Charleston, carpentry and cabinetwork.

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COMPETITIONS

Fourth A.I.A. Honor Awards Invite All Building Types

Buildings of all classifications will be admitted in the Fourth Annual Honor Awards program of the American Institute of Architects. The program was made public last month by the National A.I.A. Committee on Honor Awards for Current Work, headed by Chairman Albert F. Heino of Chicago.

All entries to the national exhibition, at the A.I.A. convention June 23–27 in New York, must be submitted directly to Pratt Institute, 215 Ryerson St., Brooklyn, N. Y., on or before June 7.

One exhibit will be selected to receive the First Honor Award for Distinguished Accomplishment in Architecture and Awards of Merit in Architecture will be given for as many exhibits as the jury considers deserving.

Eligible for entry are all buildings erected in this country or abroad since Jan. 1, 1947 by registered architects practicing professionally in the United States.

Copies of the program are available from Mr. Heino, who should be addressed in care of The Octagon, 1741 New York Ave. N.W., Washington 6 D. C.

1952 LeBrun Scholarship Competition Is Announced

Entries have been invited in the competition for the $2800 LeBrun Traveling

(*Continued on page 372*)

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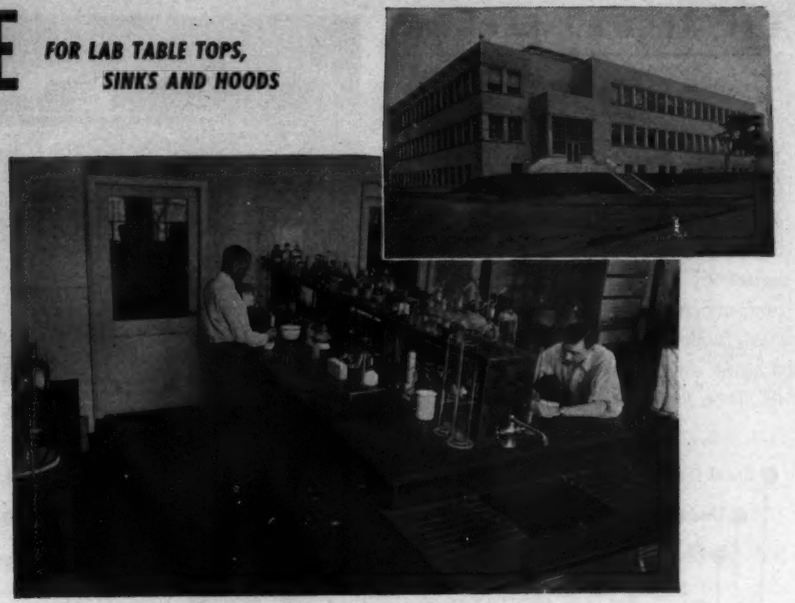

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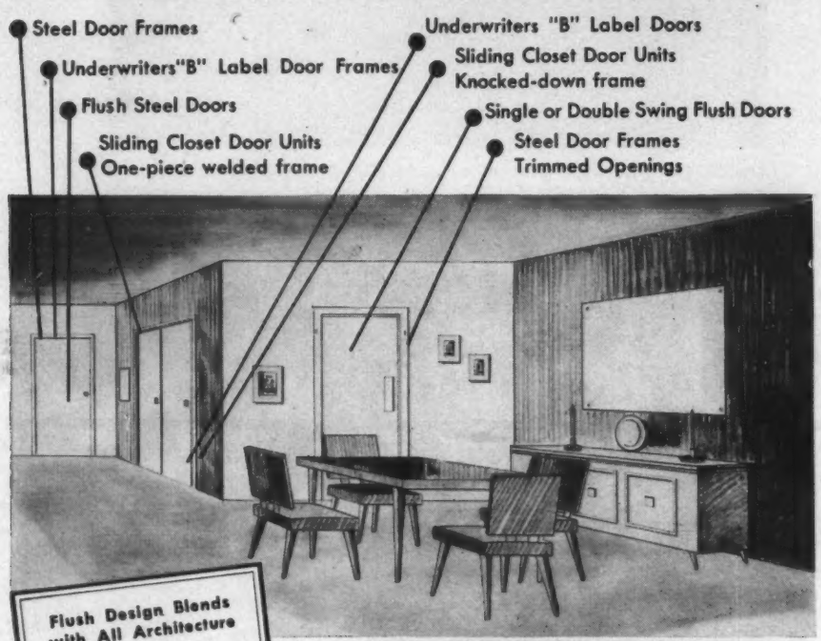
THE RECORD REPORTS

(*Continued from page 370*)

The J. W. Robinson Department Store in Beverly Hills, Cal., designed by Pereira & Luckman, architects-engineers, and Charles O. Matcham, architect, has exteriors of white marble, black granite and concrete. The structure is welded steel, with girders specially arranged to provide an unobstructed area 64 ft by 180 ft on the main sales floor



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COMPETITIONS (*Continued*)

Scholarship for 1952, the annual nationwide architectural competition sponsored by the New York Chapter of the American Institute of Architects. Closing date is April 30.

This year's problem is design of a library with facilities for outdoor reading, informal lectures and small art exhibits, for a town with a population of 30,000.

Qualifications include: U. S. citizenship and residence; age 23 through 27 (plus service years in U. S. armed forces); at least one and a half years of architectural experience; nomination by a member of the A.I.A. In addition, the winning entrant can hold no other traveling scholarship at the same time.

J. Bruno Basil, chairman of the Chapter's LeBrun Scholarship Committee, who announced details of the program, said the jury will take into consideration the materials specified in the problem's solution, as "under these circumstances probable curtailment of strategic materials would lead to a limited choice."

Prize money must be spent for a minimum of six months' travel in Europe.

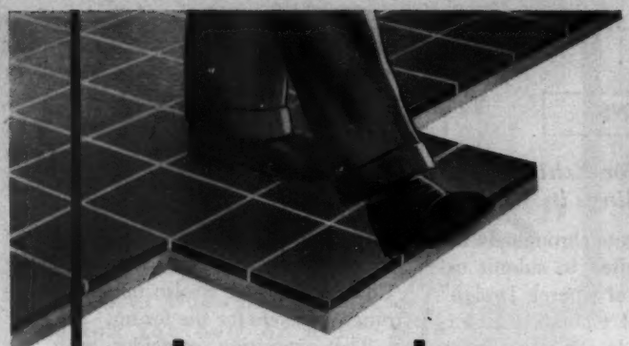
Further details can be obtained by writing the LeBrun Scholarship Committee, New York Chapter, A.I.A., 115 E. 40th St., New York 16, N. Y.

1952 Lincoln Award Program For Welded Bridges Is Open

"Welded Bridges for Steel Conservation" is the title for the 1952 award program of the Lincoln Arc Welding Foundation. Closing date is July 15.

The program is open to all persons in the United States who "feel themselves qualified to enter" and offers 15 awards totaling $16,100. First award is $7000; second award, $3500; third award, $2000; 12 honorable mention awards, $300 each.

(*Continued on page 374*)



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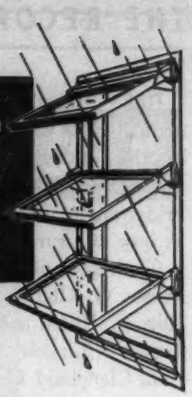

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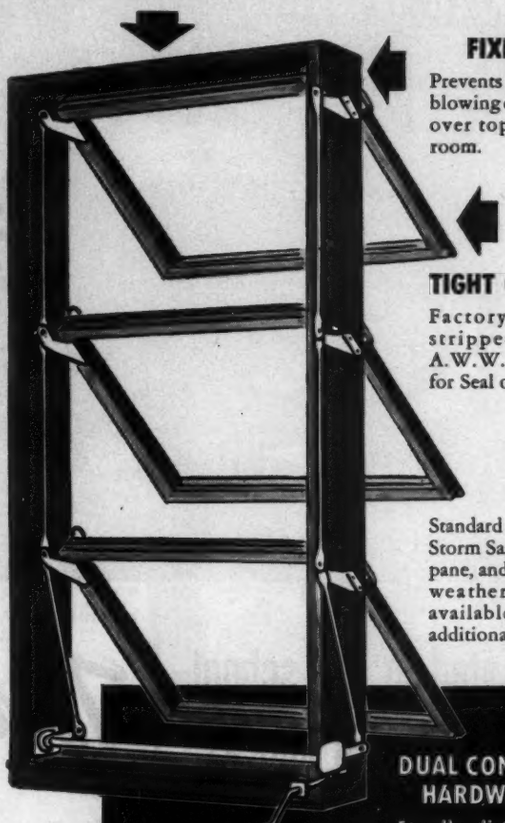

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(*Continued from page 372*)

Rules for the program, which is dedicated to the conservation of steel in the national interest, have been formulated by 14 of the nation's leading bridge engineers, five of whom will serve as jury of award.

Chairman of the program is Prof. James G. Clark of the University of Illinois. Rules are available from the James F. Lincoln Arc Welding Foundation, Cleveland 17, Ohio.

EXHIBITIONS

Entries Invited for Exhibit Of Church Buildings in May

Registered architects throughout the world are being invited to submit exhibits for the "Hall of Church Design" at the International Churchmans Exposition May 19–24 in Chicago's International Amphitheater.

The Chicago Chapter of the American Institute of Architects is cooperating with the Exposition management in making arrangements for the church exhibit. The chapter will provide a screening committee which will pass on admissibility but not on the quality of all entries.

A forum on church buildings will be held during the exposition, and the Chicago Chapter is also helping to arrange speakers for the forum.

The exposition coincides with the American Baptist Convention and the International Convention of the Disciples of Christ. Both organizations will be meeting in the Amphitheater. Invitations to the exposition and the forum are also being sent to church people of all other denominations.

Entries must be received by May 14. Entry blanks are available from: International Churchman's Exposition Office, 19 LaSalle St., Chicago 3, Ill.

FLW in New Kind of Exhibit

The exhibit of recent work by Frank Lloyd Wright at New York's Museum of Modern Art premieres a new kind of architectural exhibition.

The news is what the Museum called the "peep show" presentation of three-dimensional color photographs in individual Sterio Realist viewers.

On view are 38 slides of the new Research Laboratory tower and the adjacent administration building for the S. C. Johnson Wax Company in Racine, Wis.

The photographs were taken especially for the exhibition by Arthur Drexler, curator of architecture at the Museum.

It was the first time, as far as is known, that an architectural exhibition has used three-dimensional photographs. The Museum exhibit closes March 16.

"Art Sacre" Continues Tour

The exhibition of French modern religious art and architecture, "Art Sacre," will be shown this month (March 3–24) at the Art Alliance in Philadelphia and next month (April 9–30) at the Cooper Union Museum in New York, its last American showing.

The exhibit, which includes paintings, stained glass, sculpture, sacred vessels, tapestries, architectural exhibits, enamels, metalwork and vestments, is sponsored by the Direction Générale des Relations Culturelles, Paris, and the French Embassy Cultural Division.

(*Continued on page 376*)

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THE RECORD REPORTS

(*Continued from page 374*)

William F. Bigoney Jr. is the architect for this model house for the Gill Construction Company development in Fort Lauderdale, Fla. At right, below: view of living room showing bedroom-study at right. The study can be closed off with a sliding door and the living room has sliding glass doors opening on a patio

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EXHIBITIONS (*Continued*)

Cooperating American organizations in the presentation of the exhibit have been the Liturgical Arts Society and the American Federation of Arts.

"Architecture and Ornament"

Architectural books and drawings of four centuries are on view in a major exhibition, "Architecture and Ornament," at the Pierpont Morgan Library in New York through April 12.

A series of original drawings by Robert Adam, well-known English architect of the last century, are displayed for the first time. The material exhibited includes Italian, French and English works.

Work of Walcot Displayed

Etchings, dry points and water colors of the English architect William Walcot (1874–1943) went on display at the Goodspeed Galleries of the University of Chicago February 11. The exhibition closes March 6.

Walcot was born in Odessa, son of a Scottish father and a Russian mother; received his architectural education at the Imperial Academy of Arts in St.

(*Continued on page 378*)

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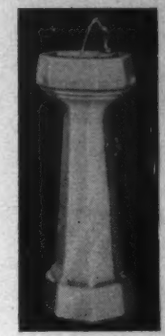

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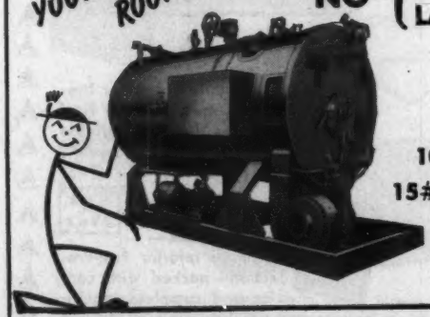

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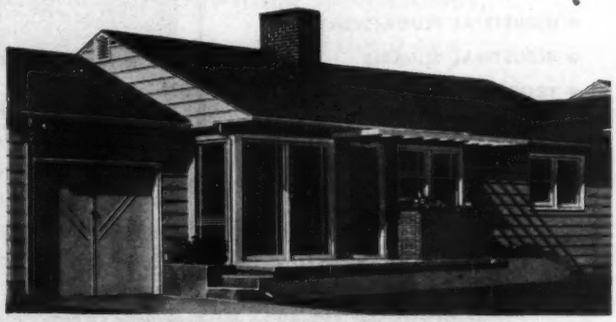

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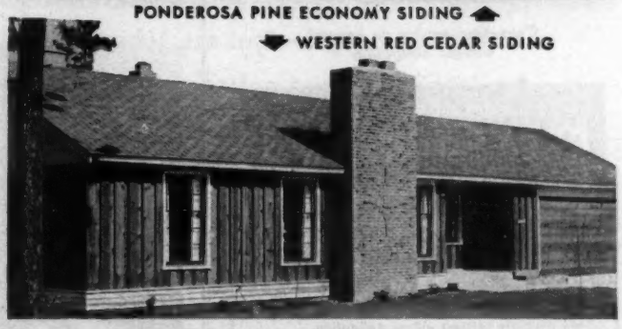

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THE RECORD REPORTS

(*Continued from page 376*)

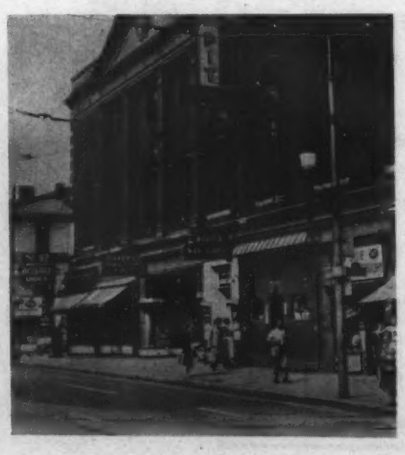
Petersburg and the Ecole des Beaux Arts in Paris.

His professional life was spent in England, fairly equally divided between building and city planning, the study of ancient architecture, and the reproduction of cities and buildings he liked in water colors, prints and drawings.

Among the works selected for the Chicago exhibition were: "Arteries of Great Britain," the rivers, cities and shipyards of England and Scotland; "Venice," including the Doge's Palace and St. Mark's; "St. Peter's in Rome"; "Temple of Edfu"; and views of Paris, Florence, London, Edinburgh, Rome and New York.

(*Continued on page 380*)

Above: the old Pitt Building in Pittsburgh after extensive remodeling directed by Architects Liff & Justh. The building was given a facade of porcelain enamel in two shades of gray and uniform signs of red porcelain enamel were placed on a continuous ledge. Below: the Pitt Building before remodeling



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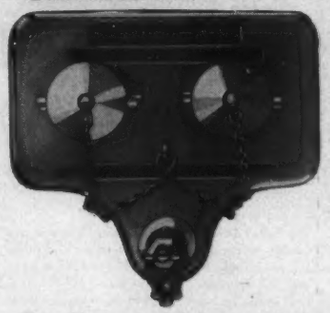

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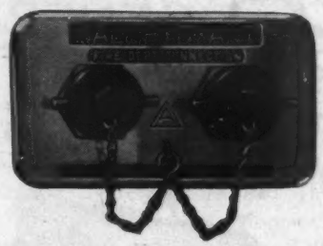

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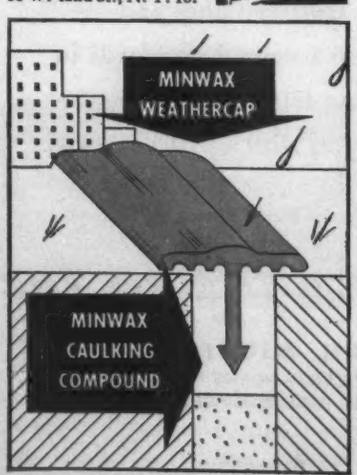

THE RECORD REPORTS

(*Continued from page 378*)

HOSPITAL SESSION OFFERS SEMINAR FOR ARCHITECTS

An architects' seminar on hospital planning and construction will be one feature of the annual meeting of the Carolinas-Virginias Hospital Association at the Hotel Roanoke, Roanoke, Va., April 24 and 25.

Architects from North Carolina, South Carolina, Virginia, West Virginia and Washington, D. C., are invited to attend the seminar, which is co-sponsored by the Virginia Chapter of the American Institute of Architects.

As another feature of the program, a competition for design of a hospital among the architectural schools of the region will be judged and exhibited at the seminar.

INDUSTRIAL REUSE URGED FOR "OBVIOUS" LOCATIONS

Plans for redevelopment projects frequently overlook the desirability of replanning obvious industrial areas, it was suggested at a recent session of the Industrial Council of the Urban Land Institute.

Areas which could better be used for industrial purposes are often designated instead as sites for housing, speakers said.

Chairman Walter S. Schmidt of Cincinnati called for cooperative action by business and real estate men, redevelopment and planning authorities, to see that redevelopment plans provide the best over-all use of land.

"Lack of proper balance in the replanning of land, with over-emphasis on housing, can carry the danger of making a redeveloped area obsolete even before the redevelopment is completed," Mr. Schmidt pointed out.

In addition to its consideration of redevelopment projects, the Council also launched a study of planned industrial districts. It is cooperating with the Federal government in compiling information on trends in industrial dispersal.

HEAD OF ARCHITECTURE AT MIAMI DIES AT 69

Dr. Leicester B. Holland, F.A.I.A., head of the department of architecture at Miami University, Oxford, Ohio,

(*Continued on page 382*)

31

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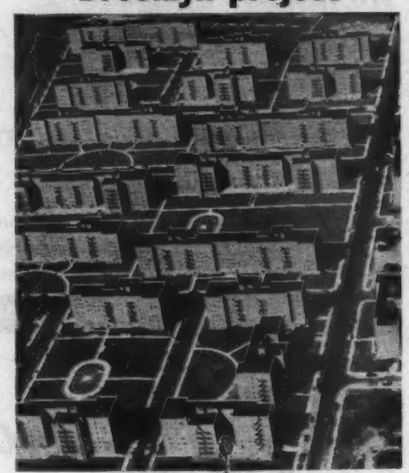

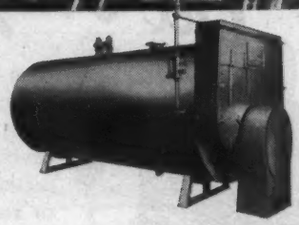

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See Sweet's Architectural File Section 31A-12

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THE RECORD REPORTS

(*Continued from page 380*)

since last spring, died February 7 in Philadelphia. He was 69 years old.

Doctor Holland, who was both architect and archaeologist, was a former chief of the Division of Fine Arts at the Library of Congress and first incumbent of the Chair of Fine Arts, endowed by the Carnegie Corporation.

A graduate of the University of Pennsylvania in 1902, Doctor Holland took his doctor's degree there in 1919.

He was associate professor at the American School of Classical Studies in Athens for a time and returned in later years to help direct the Corinth excavations undertaken by the school.

In 1949 Doctor and Mrs. Holland explored the course of the River Tiber to determine ancient lines of communication and published their findings in *Archaeology*, a professional journal.

Doctor Holland, who was with the Library of Congress from 1929 to 1943, served also during that time as chairman of the National Committee for the Preservation of Historical Monuments.

Doctor Holland became a professor of architecture at Miami in 1948.

FRANK WHITING DIES; ARCHITECT AND ARTIST

Frank Proctor Whiting, 79, who retired five years ago after a long career in architecture, died January 26 at his home in Cooperstown.

Mr. Whiting, who was the designer of the National Baseball Museum which houses baseball's Hall of Fame, was born in Brooklyn and educated at Pratt Institute.

He was associated for 14 years with the architectural firm of the late Ernest Flagg in New York, and helped design buildings for the United States Naval Academy, the Corcoran Gallery of Art in Washington and St. Luke's Hospital and the Singer Building, an early skyscraper, in New York.

Mr. Whiting also designed many large residences in the Greenwich, Conn. area, and after moving to Cooperstown in 1932, built the Hall of Fame and the large stone barns which make up the Farmers' Museum there.

Mr. Whiting was a member of the American Institute of Architects. His hobby was etching, and he was also a member of the American Society of Graphic Artists.

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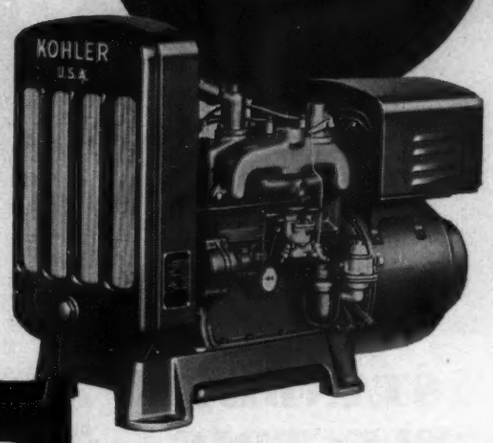

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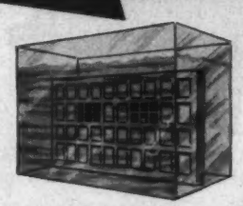

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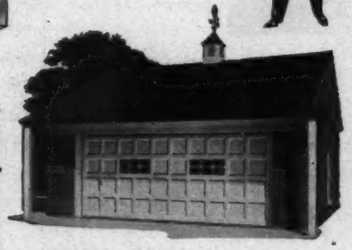

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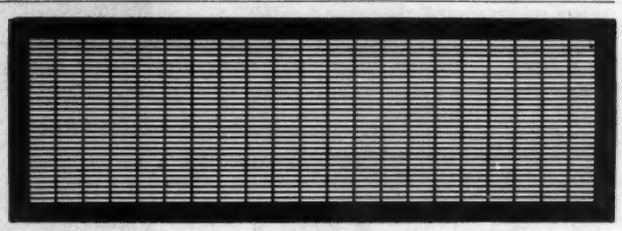

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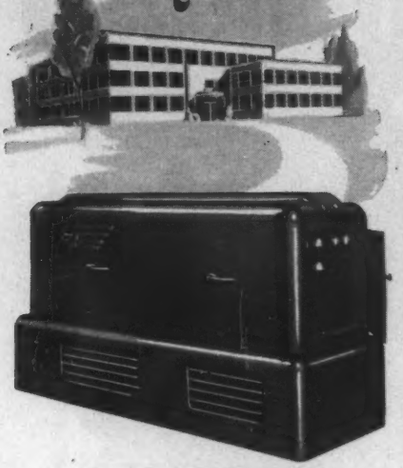

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THE RECORD REPORTS

CANADA
(*Continued from page 36*)

work was cut to 23.9 per cent; industrial undertakings swelled to 19.7 per cent; and housing's slice shrank to 19 per cent.

West Reflects Boom

Living up to the headlines on resources development, the West took more than its share of the lead over 1950, stepping out in front of other regions with an increase in volume of construction contracts awarded of 123 per cent. By contrast, volume in Quebec was down 10 per cent compared to 1950.

Trailing the West, with an increase of 70.4 per cent, Ontario still had to its credit the lion's share of the total volume. Over $1 billion of the country's total contracts went to that one province. The Maritimes climbed over $100 million for a gain of 23.6 per cent.

Percy G. Wilmut

Wilmut Succeeds Drummond as Canadian Construction Head

Percy G. Wilmut of Montreal succeeds Robert Drummond of Toronto as president of the Canadian Construction Association.

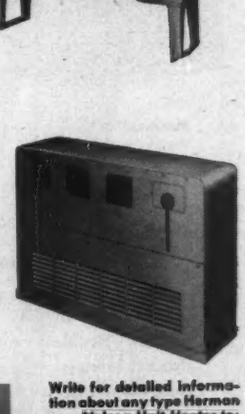
Vice presidents are John N. Flood, St. John, N. B.; and Herbert J. Bird of Winnipeg. J. E. LaCasse was elected honorary secretary and D. L. Donaldson, honorary treasurer.

Provincial vice presidents are: James N. Kenny, Nova Scotia; Alex Angers, New Brunswick; Edward R. Smallhorn, Quebec; Edward S. Sargeant, Ontario; Karl Kummen, Manitoba; G. W. Johns, Saskatchewan; F. W. Forster, Alberta; and R. A. Hall, British Columbia.

A unit heater for every need
from
HERMAN NELSON

Vertical shaft propeller-fan type unit heater—*especially suited to buildings with high ceilings—up to 50 feet.*

Horizontal shaft propeller-fan type unit heater—*the most generally useful of all space heaters.*



Centrifugal-fan type unit heater—*for efficient heating and ventilating of large industrial spaces.*

De Luxe unit heater—*an attractive, quiet operating unit designed for stores, offices, churches, etc.*

AAF

Write for detailed information about any type Herman Nelson Unit Heater to: Dept. AR-3.

herman nelson moline illinois

HERMAN NELSON
Division of AMERICAN AIR FILTER COMPANY, INC.
MOLINE, ILLINOIS

. . . FROM HERMAN NELSON

IN the church shown above, 30 Herman Nelson De Luxe Unit Heaters maintain comfortable temperatures for all services. These versatile units are equally effective for heating stores, offices, markets, display rooms and similar buildings where compact, attractive, quiet-operating heating units are needed.

There are eight models of these unit heaters available for floor, wall, ceiling or recessed installation. All models have an improved "combination type" heating element suitable for either steam or hot water operation. The De Luxe Unit Heater cabinet contains modern styling obtained through superior designing. The absence of projecting parts and its rounded ends contribute to its graceful appearance. The unit is finished in satin-smooth, tan, baked enamel so that it enhances the setting in any application.

Herman Nelson Unit Heaters are ahead of the field because constant engineering development and research plus functional design have earned this position—the result of 45 years of experience in the production of heating and ventilation equipment.

ALUMINUM CENTRIFUGAL FAN WHEELS have slow tip speeds for quieter operation.

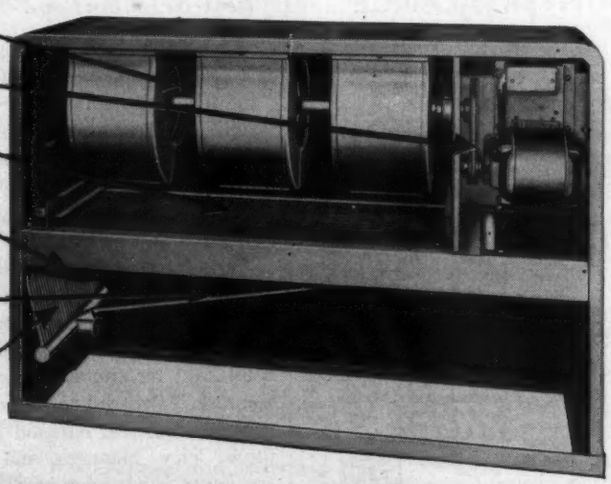
ADJUSTABLE PULLEY permits varying performance to meet exact requirements of job.

CONTINUOUS, NON-FERROUS FINS are formed with extra wide flange to provide efficient contact between expanded tubes and fins.

LOOP in each tube of heating element absorbs difference in expansion and contraction between individual tubes.

PATENTED, EXTRA HEAVY, RED BRASS STAY TUBE maintains proper relationship between headers without increasing strain on loops and allows entrained moisture to drain directly from supply to return header.

ENTIRE TUBE AND LOOP is fabricated of red brass with no connecting joint to weaken construction.



AAF herman nelson moline illinois

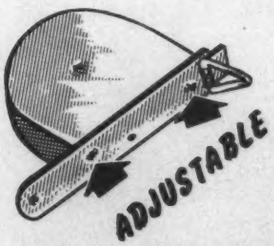
HERMAN NELSON

Division of **AMERICAN AIR FILTER COMPANY, INC.**

MOLINE, ILLINOIS

Costly man hours and time delays are eliminated when Caldwell adjustable clock-spring sash balances are specified for any double-hung window weighing up to 105 lbs. per sash. Balance can be ordered as soon as sash measurements and glass type are known. Weight variations which always exist in institutional sash are compensated for quickly and easily by Caldwell's patented screwdriver adjustment.

PERFECT ADJUSTABLE COUNTERBALANCE



CALDWELL MANUFACTURING CO.
55 COMMERCIAL ST., ROCHESTER 14, N. Y.
The standard of quality for over 65 years

FREE

Send list of installations of Caldwell adjustable balances.

Name.....

Street.....

City.....Zone....State.....

N. A. H. B. CONVENTION

(*Continued from page 22*)

washer, stove, refrigerator, clothes washer, clothes dryer. More exhaust fans in rooms other than the kitchen — bath, basement, recreation room and hallway.

8. More coordinated color schemes with resulting variety of appearance throughout a subdivision or community.

9. Increased usage of new type concrete slab foundations in areas where unstable soil conditions are found. The slabs are so engineered that if the outside foundation shifts, all inside parts of the foundation will shift proportionately.

10. The trend toward built-ins to continue. Kitchens in which the stove has been "taken apart" and the oven, broilers and burners placed for convenience of use.

The big theme of 1952 housing, Brockbank added, will be more homes for military personnel and defense workers.

17,000 At Convention

The convention at which Brockbank was elected was attended by 17,000 building men who saw a $3,000,000 display of products, attended some 125 meetings and programs, listened to some 200 government officials, researchers, housing "experts," and association leaders.

"Best Neighborhood" Awards

Among the convention highlights was the presentation of award scrolls for "the five best-planned new U. S. communities," chosen in the 1951 Neighborhood Development Contest sponsored by the National Association of Home Builders.

Awards of Merit winners were:

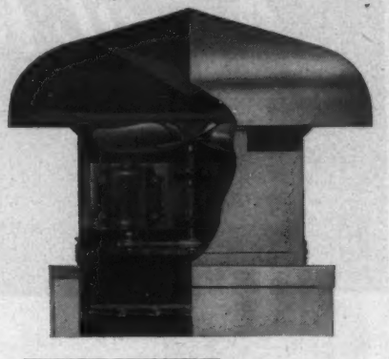
Park Forest, Chicago, Ill., built by American Community Builders, Inc. Loebl, Schlossman and Bennett, chief architects and planners; Elbert Peets, consultant for site and town planning; Consoer, Townsend and Associates, consulting engineers; Kinkaid and Hutchinson, city planners and architects (planners, subdivision area).

Wedgewood, Seattle, Wash., built by Albert Balch. Thomas, Grainger, Barr, Chiarelli and Kirk, architects.

Park Lawn, Columbus, Ohio, built by

(*Continued on page 388*)

announcing the
BURT
LOW TYPE FAN
VENTILATOR



HIGHLY EFFICIENT
BIG CAPACITY
DIRECT OR BELT DRIVE
QUIET IN OPERATION
QUICKLY ACCESSIBLE
EASILY INSTALLED
COMPLETE WEATHERPROOF
INCONSPICUOUS

This new Burt ventilator is modern in engineering and design. Its efficient power-driven fan provides equally high capacity as an exhaust fan ventilator or as a fresh air supply unit. Its low, clean lines meet architectural requirements for an inconspicuous roof ventilator. Standard sizes include fans from 12" to 60" in diameter. Automatic or motor operated louver-type dampers may be used. See Sweet's for complete data on the **Burt LOW TYPE FAN VENTILATOR** or write us for Bulletin SPV-16.

FAN & GRAVITY VENTILATORS • LOUVERS
SHEET METAL SPECIALTIES

The Burt Mfg. Co.
48 E. South Street
AKRON 11, OHIO

FOSTER
WELDED
All-Aluminum

COMMERCIAL REFRIGERATORS & FREEZERS

Years ahead with these famous firsts
One line • One quality • One price

Manufacturers of:
Reach-ins,
Upright and Chest-type Freezers. Two-temperature, and Undercounter Refrigerators for:
- *Military specifications*
- *Shipboard installations*
- *Hospitals, Schools*
- *Restaurants, Bakeries*
- *Institutions, Hotels*
- *Industrial, and Farm*

Welded Aluminum cannot rust!

Welded Aluminum is lighter weight! Means low freight and installation cost. Great Mobility.

Welded Aluminum provides better insulation! Means lower operating cost, less fluctuation of temperature.

Write Dept. 2 for information.

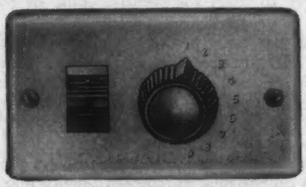
Years of service to thousands of satisfied users

FOSTER *originators of* WELDED ALL-ALUMINUM REFRIGERATORS and FREEZERS
HUDSON, N.Y.

SPECIFICATION DATA

REMOTE CONTROL with MASTER SELECTOR SWITCH

CLIP this specification data sheet for simplified write-ins.



All switch control shall be General Electric remote control. Master selector switches RMS-2 and relays RR-2 shall be installed as indicated on the plan drawing.

Other associated components include: RT-1 transformer, RFS-1 flush switch, RSS-1 surface switch, RP-1 single-gang plate, ivory (RP-11 for chrome), RP-2 two-gang plate (RP-12 for chrome), and RP-3 three-gang plate (RP-13 for chrome).

Master selector switch controls up to nine circuits and is a combination circuit selector and ON-OFF switch on single plate. Depth, one inch. Rated 3 amp, 25 volt. Specify master selector switch in bedrooms, entrance doorway, and garage for residences—and in all locations where centralized switching is important in industrial and commercial installations.

For information on other G-E wiring devices, write Section D7-35, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

HERE'S PROOF

FOLLANSBEE TERNE METAL ROOFING

lasts as long as the building stands

TERNE METAL ROOF 134 YEARS OLD!

The Kent estate, Christiansburg, Va., *built in 1818*, is still protected by the same Terne Metal roof installed 134 years ago. Says H. B. Smith, Christiansburg roofer who replaced a portion of the roof last year:

. . . all I had to remove was half an ell on both sides. The rest of the ell and the main roof is still on and still does not leak. I can show you quite a few homes around here with Terne roofs which have been on for over 75 years and are still giving good service."

The Kent estate is an outstanding example of the lifetime-*plus* durability of Terne Metal Roofs. That's why architects and builders are specifying Follansbee Terne Metal both for new homes and re-roofing modernization jobs. It gives satisfied home owners a lifetime of comfortable, snugly weathertight roofing protection.

A Follansbee Terne Metal Roof gives any home fresh individuality and sleek lines that adapt beautifully to any architectural style. It is especially suited to the small, budget-wise home because it's economical yet long-lasting, fireproof, windproof and weatherproof. Moreover, Follansbee Terne can be painted to harmonize with the house exterior and surroundings.

Write us for your file of architectural details and the new bulletin "How to Paint Follansbee Terne Metal Roofs."

FOLLANSBEE STEEL CORPORATION

GENERAL OFFICES, PITTSBURGH 30, PA.

POLISHED BLUE SHEETS AND STRIP **SEAMLESS TERNE ROLL ROOFING**
COLD ROLLED STRIP

Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. *Sales Agents*—Chicago, Indianapolis, Kansas City, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada.
Mills—Follansbee, West Virginia

FOLLANSBEE METAL WAREHOUSES
Pittsburgh, Pa. Rochester, N.Y. Fairfield, Conn.

Cut Fuel Costs at George School

George School, Bucks County, Pa., Main Building (illustrated) was modernized in 1950 with Webster Electronic Moderator System of Steam Heating. The two newest buildings at George School also use Webster heating equipment, installed by Bowers Bros., Co., Philadelphia contractor.

Five of the 28 steam-heated buildings at George School, famous 60-year old preparatory school of the Society of Friends, were placed under Webster Moderator Control in 1950 with a reduction of $2,956 in the cost of oil for the first heating season.

Leon J. Baker, Chief Engineer, points out that the savings were achieved despite a 9% increase in radiation and an 8% degree day increase.

Formerly, some buildings were overheated. A study of heating systems used on other campuses led to the installation of a Webster Electronic Moderator System in the Main Building. This provides continuous steam flow, varied automatically with every change in outdoor temperature.

For the new Hallowell Art Center, the faculty apartment building and two of the boys' dormitories, Webster EH-10 Moderator Systems provide pulsating steam flow, varied automatically by a Webster Outdoor Thermostat.

The Webster Moderator System may belong in your heating plans. Call your Webster representative or write us for his name.

Address Dept. AR-3

WARREN WEBSTER & CO.
Camden 5, N.J. Representatives in Principal Cities
In Canada, Darling Brothers, Limited, Montreal

WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled by the weather"

N. A. H. B. CONVENTION

(Continued from page 386)

Todd Tibbals. Tibbals, Crumley and Musson, architects.

Tanglewood, Houston, Tex., developed by William G. Farrington, Phillip C. Hubbard, Wylie W. Vale "and others," consulting architects.

Ben Hur Estates, La Canada, Cal., built by the Los Angeles Kenbo Corp. Charles Henry Burge, of Burge and Roach, architect; William H. Fair, and Burge and Roach, land planners.

Five Houses Win Awards

In the second annual builders' competition for "Best Homes for Family Living" sponsored by Parents' Magazine, five houses were chosen to receive awards at the convention.

Jere Strizek won the National Merit Award for a $9500 house for a development in Sacramento, Cal. (photo and plan, page 26). John W. Davis was the architect.

Regional awards went to: Robert Davenport, Hollin Hills, Inc., $15,035 house for Mr. and Mrs. Alex Radin; Charles M. Goodman Associates, architects.

Robert Davenport (as above), $21,450 house for Mr. and Mrs. Howard West; Charles M. Goodman Associates, architects.

Zamore Builds, Inc., Waldwick, N. J., $15,700 house for Mr. and Mrs. George Mol; Harvey P. Clarkson, architect.

Kaiser Homes, Los Angeles, Cal., $9950 house for Mr. and Mrs. Herbert S. Burns; Henry J. Friel, architect.

New Officers Elected

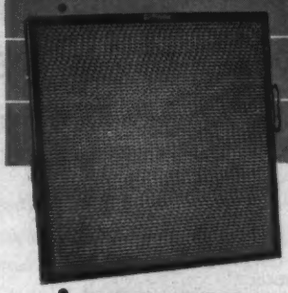
Besides Mr. Brockbank, officers elected for the coming year include: Emanual M. Spiegel, New Brunswick, N. J., first vice president; Joseph Haverstick, Dayton, Ohio, second vice president; R. G. Hughes, Pampa, Tex., treasurer; and Paul Burkhard, mayor of Glendale, Cal., secretary.

Building Products Exhibit

The building products display, sprawling over four floors of Chicago's Conrad Hilton Hotel, featured many new products as well as others designed to conserve critical materials. A few highlights include:

(Continued on page 390)

Now you can have
Performance Rated
Air Filters



FAR-AIR* *originates greatly improved testing methods that take the guesswork out of air filtration!*

All architects, engineers and reputable filter manufacturers know this important fact about air filters: *no filter—regardless of its design—operates at equal efficiency under all dust conditions.* For example, a filter may stop "gravel" with 100% efficiency, but may have 1% efficiency when exposed to dust particles of 0 to 5 micron size. (1 micron—1/25,000 inch.) The new FAR-AIR testing methods accurately rate filter efficiencies under *all* dust conditions—not just one set of laboratory conditions using a "standard" test dust, as in the past.

THIS IS IMPORTANT TO YOU because, for the first time, you can buy air filters whose performance rating under your operating conditions is accurately determined in advance. No more guesswork when you buy FAR-AIR filters! You may also save needless expense by installing the type filters that are no more efficient than necessary to meet the requirements of the job.

This tremendous advancement in the science of air filtration is ready to serve you now. Your nearby Farr Field Engineer can be of valuable assistance in solving your air filtration problems. Why not call him today?

Write today for your copy of the free booklet on the new Farr testing procedures, which gives full technical information on the equipment used in these tests and the results obtained. Address:
Farr Company, P.O. Box 10187, Airport Station, Los Angeles 45, Calif.

FARR COMPANY
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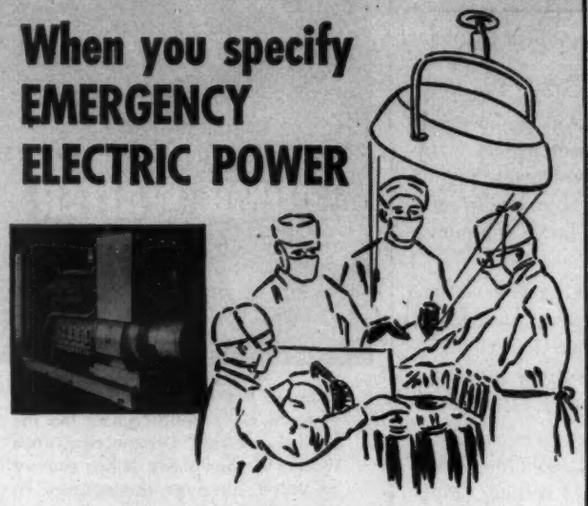
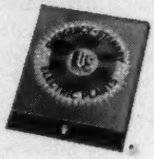
When you specify EMERGENCY ELECTRIC POWER



. . . HAVE THIS FREE FOLDER ON FILE



"U.S." *specializes* in Electric Plants built for emergency stand-by use . . . designs them with dependability built-in! Round out your knowledge of stand-by electric plants with the information about "U.S." units in this folder. Have it handy when you need it.

United States Motors Corp.
351 Nebraska St. Oshkosh, Wis.

For Refrigeration and Air Conditioning Equipment with a superior performance record—

specify . . .

SEE OUR FULL PAGE AD IN NEXT ISSUE

Curtis

Over 98 Years of Know-How Built-In

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1986 KIENLEN AVENUE, ST. LOUIS 20, MISSOURI

American Universal Ten-Twenty Desk No. 436
—"Key to the Co-ordinated Classroom"

Avail yourself of our extensive files on school planning

Modern school seating is a specialized field. Architects are cordially invited to use the long experience and extensive files of American Seating Company, to save research time and effort when planning classroom furniture and auditorium chairs.

SEE OUR CATALOG IN SWEET'S

We specialize in auditorium seating

Full information is available on request, including advice on sight lines, riser attachment, etc. American BODIFORM Auditorium Chairs are beautiful, comfortable, durable, in a wide range of styles with or without tablet-arms.

Two useful free booklets for your files

Write for free copies of "The Co-ordinated Classroom" (A.I.A. File No. 35-B), which was awarded the A.I.A. Class 1 Certificate of Merit for service to architects; also the new illustrated booklet, "Education Grows," an informative discussion of recent developments.

WORLD'S LEADER IN PUBLIC SEATING

American Seating Company

Grand Rapids 2, Mich. Branch Offices and Distributors in Principal Cities
Manufacturers of School, Auditorium, Theatre, Church, Transportation, Stadium Seating, and Folding Chairs

THE BEST FOR THE LEAST MONEY?

YES—Here's an unbeatable combination for low cost wall construction. Richkraft Sheathing Paper lets your walls breathe and permits the escape of trapped moisture. At the same time it stops the passage of wind, rain or dust.

Combine Richkraft Sheathing Paper with Richflex Reflective Insulation and you have the best there is in wall construction—a wall that reflects 75% of radiant summer heat, yet acts as a cold barrier when a "norther" brings winter down.

Richkraft Sheathing Paper and Richflex Reflective Insulation meets all F.H.A. specifications for vapor barriers and breather sheets. Their cost is surprisingly low. Send the coupon for more details.

Ask about Richbead, the Metal Angle, that gives protection to Interior and Exterior Corners.

THE RICHKRAFT COMPANY
228 North LaSalle Street, Chicago 1, Illinois

THE RICHKRAFT CO.
228 N. LaSalle Street
Chicago 1, Illinois
Gentlemen:
Please send me complete details on:
Richflex Reflective Insulation ☐
Richkraft Reinforced and Breather Papers ☐
Richbead for dry wall corner protection ☐

NAME_____

ADDRESS_____

TOWN_____ ZONE____ STATE____

N. A. H. B. CONVENTION

(*Continued from page 388*)

Glass Coating. An inexpensive, glass-coated metal faucet which resists rust and corrosion, saves scarce metals and is installed with a radically new method which cuts home plumbing costs.

Low Volt Switch. A low voltage electrical switching system housed in a plastic outlet box rather than the conventional steel, allowing use of aluminum wiring, which is now as scarce as copper.

No calking. Easily assembled sewer pipes not requiring lead calking or expensive labor installation costs. Another type of pipe displayed — leak- and rust-proof — resists underground root growths which clog many drainage systems.

Plastics. Plastic pipe for water and gas mains, as well as plastic shower fixtures.

Wood Flakes. Laminated wood paneling fused under heat and pressure from wood flakes and chips producing a veneer stronger than most wood at less cost than plywood. Described as one answer to any threatened lumber shortage. It handles easily, holds nails and screws near the edges without splitting.

Non-static Paint. A long-life, plastic-like multi-colored paint which resists chipping and scratching, and, because of unusual non-static properties, repels dust and grease. It keeps cleaner longer than other surface coatings.

Plastic Panels. Reinforced plastic translucent panels which can be sawed, nailed or punched. The material is said to be an effective light transmitting medium of great strength. Available in nine different colors, it is made in a variety of flat and corrugated sheets up to 12 ft in length.

Child Bather. Especially designed for showering and child bathing is a receptor bath shown by a plumbing manufacturer. The compact unit measures only 42 in. long, 36 in. wide and 15 in. high.

Pastel Tubs. An entire new line of bathtubs and lavatories by a major plumbing manufacturer. Among the interesting features of the modernly styled bathtubs is a vertical edge at the panel ends, a feature which simplifies installation by eliminating the need to cut and fit adjoining wall tile. The entire line is available in pastel colors.

Sedgwick
multi-stop
electric traction
DUMB WAITER
for
any number
of landings

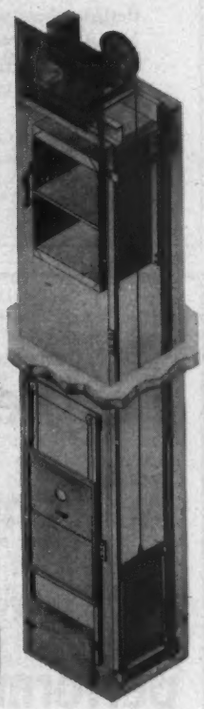
Increase the operational efficiency of multi-story buildings by the inclusion of this Sedgwick Dumb Waiter in your plans. It has proved its value all over the country in hospitals, hotels, restaurants, clubs, libraries, schools, stores and other commercial, institutional and industrial structures.

ADVANCED ENGINEERING
Embodies the most advanced electrical and mechanical features and is built to give long, dependable service.

SAFETY FEATURES
Car operates only when all doors are closed — Sedgwick Type "SL" Combination Door Locks and Switches prevent opening of all doors except the one where the car stops.

AUTOMATIC CONTROL
The car can be called and dispatched by momentary pressure push buttons at each landing opening. "Open Door" and "In Use" signal lights show at each station. Special control and signal equipment can be furnished for unusual needs.

OTHER REFINEMENTS
The control system includes reverse phase, overload, and non-interference relays.



Quality Products of Proved Performance
Sound engineering and careful workmanship in this and other Sedgwick Products reflect many years of specialization in the vertical transportation field.

Write for booklet AR-2 on complete line of Sedgwick Dumb Waiters, Dumb Waiter Doors and Elevators

Sedgwick MACHINE WORKS
142 WEST 15th ST., NEW YORK 11, N. Y.
Specialists in Vertical Transportation Since 1893

SOME OTHER SEDGWICK PRODUCTS

for lightweight concrete . . . use

WAYLITE Aggregate

SAVE UP TO 35% IN DEADWEIGHT

. . . DESIGN UP TO 4,000 PSI

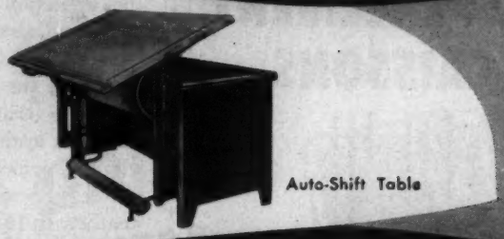
When you want a lightweight structural concrete with adequate strength, specify the use of Waylite.

Waylite is a cellular aggregate made by processing molten slag. Its air cells are completely sealed giving lightness and strength. Design for strength with Waylite as in ordinary plain or reinforced concrete. Handles similarly. Approved by Board of Standards and Appeals, New York City. Waylite Concrete 2,000 psi weighs 100 pounds per cubic foot . . . 4,000 psi Waylite weighs 108 pounds.

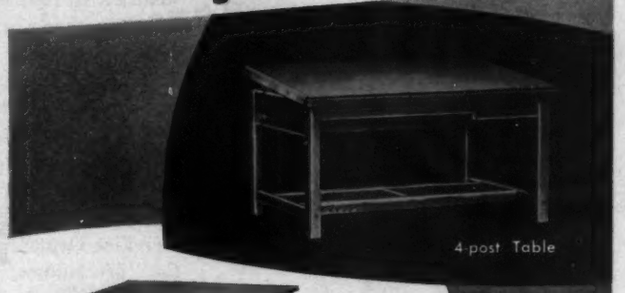
Waylite offers many important economies and advantages in structural design. Also widely used as floor and roof fills. See data in Sweet's—for additional information and quotations write The Waylite Co., 105 W. Madison St., Chicago 2, or Box 30, Bethlehem, Pa.

WAYLITE

5-drawer Unit



Auto-Shift Table



4-post Table

Ideal Table

Shallow Drawer Unit

few things are harder to find than a dissatisfied user of Hamilton Drafting Equipment

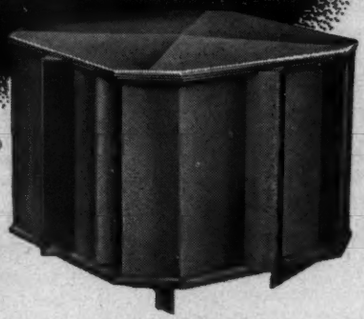
HAMILTON WORK-DESIGNED DRAFTING EQUIPMENT

Hamilton Manufacturing Company

Two Rivers, Wisconsin

World's largest manufacturer of professional furniture

NOW . . . ADEQUATE LOW COST VENTILATION



AGITAIR®

WIND-ACTUATED EXHAUSTERS

No Power Costs . . . No Maintenance
Perform Efficiently Regardless of Wind Direction

Now . . . with Agitair Exhausters, a hole in the roof becomes a complete ventilating system. Yes . . . every gentle breeze can be put to work to provide positive, adequate ventilation. Agitair Wind-Actuated Exhausters draw hot, stale air, steam or odors from the area being ventilated . . . regardless of wind direction or velocity. They prevent back-drafting, and are completely weatherproof under all conditions.

Write for Bulletin EX 103-2

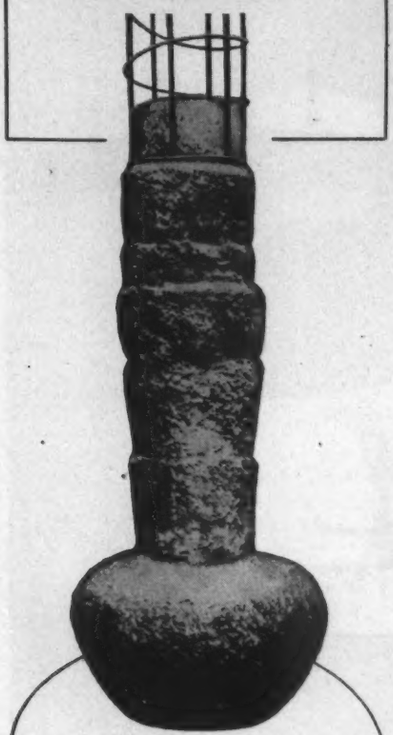
AIR DEVICES, Inc.

17 East 42nd St. • New York 17, N. Y.

Air Diffusers • Air Filters • Roof Exhausters

Safe and economical solution to foundation problems

FRANKI DISPLACEMENT CAISSONS



Excavated Franki Displacement Caisson. Enlarged base and 21" diameter shaft formed by ramming concrete into soil. Soil is displaced and compacted—not excavated.

THE driving and concreting procedure followed in the installation of Franki Displacement Caissons results in very high compression of surrounding soil. This high soil compression added to the intrinsic strength of the Franki Displacement Caisson provides an unequalled bearing capacity.

It will pay you to investigate the advantages of the Franki Displacement Caisson. It has been used successfully in 36 countries under a wide variety of soil conditions. Typically, single caisson loads are 100 tons.

WRITE FOR complete information about the construction method, advantages, tests and typical installations of the Franki Displacement Caisson.

FRANKI FOUNDATION COMPANY
436 Seventh Avenue
Pittsburgh 19, Pa.

REQUIRED READING

(Reviews continued from page 48)

duty, and anyone who was anybody took an active interest in the Volunteer Fire Department.

Mr. Dunshee recreates this atmosphere with imagination and fondness in this collection of fine old prints, anecdotes and excerpts from the diaries of New York's early citizens.

One of the more engaging of these diaries is that of George Templeton Strong, a leading merchant of the time, who had something pithy to say about nearly every aspect of life, including the weather. In 1841 when the city was considering piping water from Croton to New York, for example, he wrote: ". . . the Croton water is slowly flowing towards the city, which at last will stand a chance of being cleaned — if water can clean it."

The book was inspired by research into the history of New York's Volunteer Fire Department, and the story of the "fire laddies," as they were called, runs throughout. In the early life of the city it was as much a social distinction to be one of the volunteer firemen as it now is to be a member of Squadron Eight. The role the volunteers played was a vital one, as in the first 200 years of its existence New York was plagued by fires which destroyed many blocks of downtown Manhattan and which contributed to the radical change in the city's aspect.

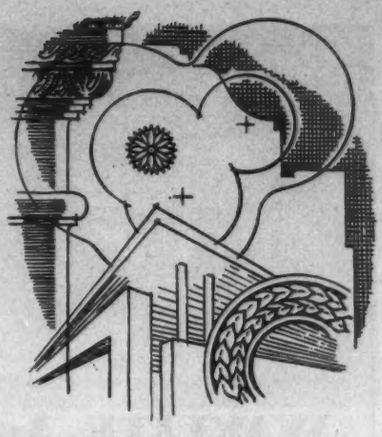
PHOTOGRAPHING WILLIAMSBURG

How to Make Good Williamsburg Pictures — How and Where for Amateur Photographers. By Walter H. Miller. The Dietz Press (112 East Cary St., Richmond, Va.), 1951. 7¾ by 10 in. 118 pp., illus. $3.00.

Mr. Miller has for years conducted Camera Tours in Williamsburg and here offers a primer for the amateur architectural photographer. There are brief historical notes on the public buildings, and photographs of them as well as of many private houses. Each picture is given a full page. On the opposite page appear film suggestions, lens opening used and time of exposure. The exact camera angle is illustrated by an attractive and clever sketch.

The book is arranged to follow a tour of Colonial Williamsburg, and the end papers provide an excellent and well-

(Reviews continued on page 394)



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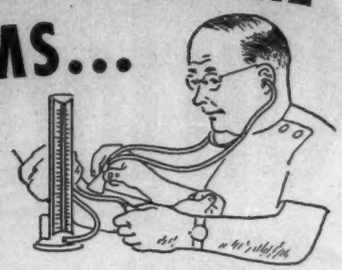

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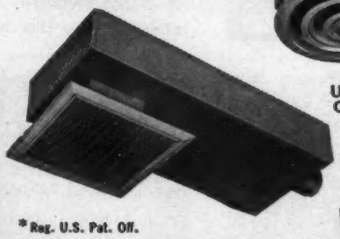

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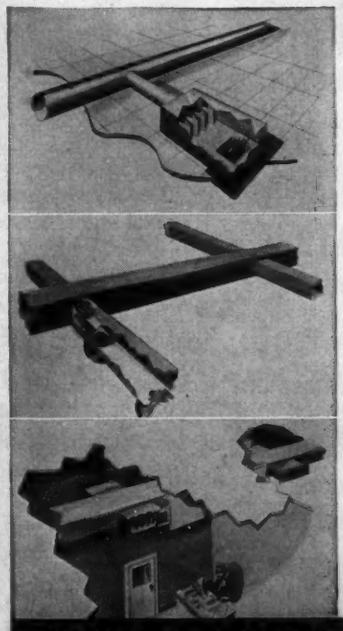

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REQUIRED READING

(*Reviews continued from page 392*)

annotated map.

The "How and Where" of the subtitle are graphically presented. That some of the resulting photographs are disappointing is perhaps the fault of the way they are cropped and reproduced. The book does, however, supply much helpful information on how to take good pictures in Williamsburg.

BOOKS RECEIVED

The Rise of the Skyscraper. By Carl W. Condit. The University of Chicago Press (Chicago), 1952 — A critical analysis of the work of the Chicago School and its contribution to the architecture of modern skyscrapers. Photographs.

The Art Nouveau. By H. F. Lenning. Martinus Niihoff, Publisher (9 Lange Voorhout, The Hague, Netherlands), 1951 — A study of the major phase of the *Art Nouveau* movement, its impetus, its principles and its importance as a bridge to modern organic construction and interior design. Illustrations.

Wren, His Work and Times. By John Lindsey. The Philosophical Library, Inc. (15 E. 40th St., New York 16, N. Y.), 1952 — An historical biography which discusses the man and his work in relation to the great historic events of his time.

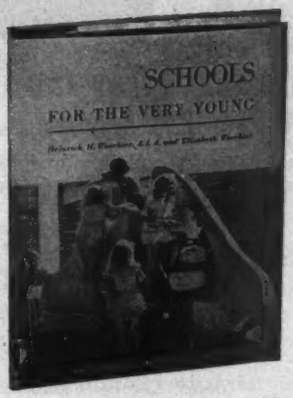
History and Policies of the Home Owner's Loan Corporation. By C. Lowell Harriss. National Bureau of Economic Research (1819 Broadway, New York 23, N. Y.), 1952 — The story of a unique relief agency, its legislative background, its lending activities, its methods of property appraisal and of servicing loans.

Rigid Frame Formulas. By A. Kleinlogel. Frederick Ungar Publishing Co. (105 E. 24th St., New York 10, N. Y.), first American edition, 1952 — A revised and enlarged edition of a book which has had 11 editions in German and which embraces nearly all of the practical single-span types of rigid frames.

How to Build Walls, Walks, Patio Floors. A Sunset Book. Lane Publishing Co. (Menlo Park, California), 1952 — This useful, practical manual tells you how to mix mortar or concrete, cut bricks, dress stone, saw tile, build walls and lay paving. Illustrated.

Schools for the Very Young

by **HEINRICH H. WAECHTER, A.I.A.**
and **ELISABETH WAECHTER**



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. Examples of existing pre-schools are presented with critical comment. Detailed information is given concerning the space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

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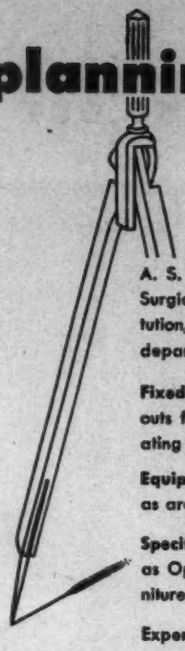

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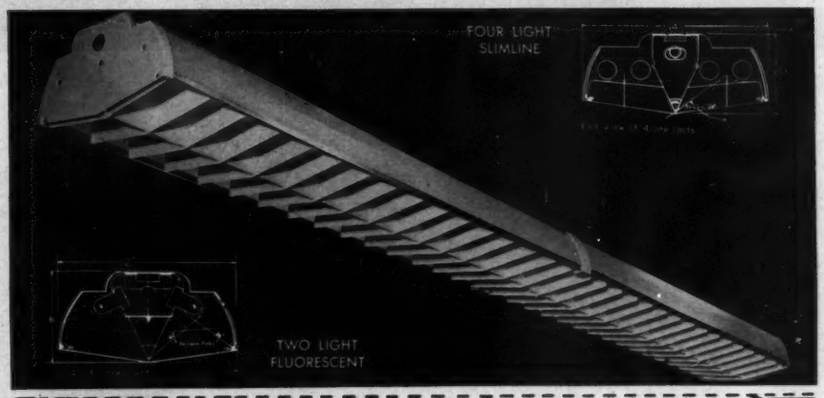

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